



## Six Sigma Online (Green/Black/Lean) – B110

280+ hours

### Define the Six Sigma Opportunity

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#### Overview/Description

Have you ever heard someone say, "That's putting the cart before the horse"? It's a quaint way of describing a process that's being implemented in a backward manner. One example of this is a company that begins to make organization-wide improvements before identifying which improvements would provide optimal benefits. This course, Define the Six Sigma Opportunity, is a guide for choosing those processes that will reap the greatest corporate benefit from Six Sigma® projects. Besides being given guidelines for establishing an improvement opportunity, you'll learn specific methods for capturing the voice of the customer, and how to use the Kano model to discern and categorize those customers' needs. You'll also learn about Six Sigma improvement opportunities from a financial perspective: what to consider before launching a project, the financial metrics that will be involved, and how to calculate the cost of poor quality. Six Sigma is a registered Trademark of Motorola Corporation, and all rights, title, and interest in Six Sigma belongs to Motorola.

#### Target Audience

Candidates for Black Belt certification; managers/executives overseeing personnel involved in the implementation of Six Sigma in their organization; consultants involved in implementing a Six Sigma proposal; and organizations implementing a Six Sigma project

#### Expected Duration

3.0

#### Lesson Objectives:

##### Identifying the Improvement Opportunity

- choose the benefits of knowing how to identify an improvement opportunity for a Six Sigma project.
- choose examples of the steps for establishing a Six Sigma improvement opportunity.
- match customer categories with examples of each.
- match methods for capturing the voice of the customer with examples.
- match the Kano Model categories with examples of each.
- determine the appropriate Kano Model category on which to focus customer improvement efforts for a given business scenario.

##### Developing Financial Metrics

- identify the benefits of using financial metrics in Six Sigma projects.
- identify cost-benefit categories that should be considered before launching a Six Sigma improvement project.
- choose the example that correctly indicates the given metric's calculation model.
- match kinds of poor quality costs with their examples.
- apply the steps for determining COPQ in a given business scenario.

Course Number: OPER0171



## Defining and Mapping the Six Sigma Process

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### Overview/Description

Maps are incredible tools. They show--on one page--where you are, where you want to go, the best way to get there, and endless alternate routes. Without maps, we would be left to wander unknown paths to uncertain destinations, encountering untold pitfalls along the way. Maps are also important tools in guiding Six Sigma® teams in the quest for process improvement; it is impossible to improve a process that you don't fully understand. In this course, you will be introduced to the mapmaker's art as it applies to Six Sigma. You will learn techniques to help you survey the business landscape from a high level. You will then learn how to fill in the details and sharpen the focus by using a variety of map types. Finally, you will practice reading maps to learn how to recognize and avoid the roadblocks that stand between you and your destination. Six Sigma is a registered Trademark of Motorola Corporation, and all right, title, and interest in Six Sigma belong to Motorola.

### Target Audience

Candidates for Black Belt certification; managers/executives overseeing personnel involved in the implementation of Six Sigma in their organization; consultants involved in implementing a Six Sigma proposal; organizations implementing a Six Sigma project

### Expected Duration

2.5

### Lesson Objectives:

#### SIPOC and the High-level Process View

- identify the benefits of using a SIPOC diagram.
- match components of a SIPOC diagram to examples in a given scenario.
- apply the proper steps for creating a SIPOC diagram for a hypothetical business scenario.

#### Process Mapping Techniques

- recognize the benefits of creating a detailed process map.
- match each type of map to a situation where it should be used.
- match common flowcharting symbols to their functions.
- sequence examples of the steps for creating a top-down map for a hypothetical business scenario.
- interpret a functional deployment map.
- identify attributes of a good process.
- examine a process map to identify trouble spots in the process.

Course Number: OPER0179



# History of Organizational Improvement and the Foundations of Six Sigma

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## Overview/Description

To successfully implement Six Sigma®, it's useful to understand the history of organizational improvement and the contributions of various leaders in the field of quality. This course examines the concepts of quality, customer satisfaction, and continuous improvement that are common among Six Sigma, the Total Quality Management movement, and continuous improvement. It also discusses the continuum among each of these business approaches. Finally, the course provides an understanding of the development and use of continuous improvement tools, including the contributions of Shewhart, Deming, Juran, Ishikawa, and Taguchi. Six Sigma is a registered trademark of Motorola Corporation, and all right, title and interest in Six Sigma belongs to Motorola.

## Target Audience

Candidates for Black Belt certification; managers/executives overseeing personnel involved in the implementation of Six Sigma in their organization; consultants involved in implementing a Six Sigma proposal; and organizations implementing a Six Sigma project

## Expected Duration

2.0

## Lesson Objectives:

### Types of Quality Initiatives

- recognize the importance of understanding differences between TQM/continuous improvement and Six Sigma.
- select the key elements of Total Quality Management.
- select the key ideas of continuous improvement.
- distinguish examples of principles underlying TQM from examples of principles underlying Six Sigma.

### Continuous Improvement Tools

- recognize the importance of knowing continuous improvement tools.
- select descriptions of Shewhart's contributions to quality control as they relate to Six Sigma.
- select examples of key principles in Deming's 14 Points for Management that relate to Six Sigma in a workplace scenario.
- distinguish whether a given workplace scenario illustrates a chronic or sporadic problem-solving method.
- select the elements of a problem statement.
- select examples of steps associated with identifying possible causes.
- match Taguchi's three methods to descriptions.

Course Number: OPER0164



## Introduction to Six Sigma

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### Overview/Description

When launching General Electric's quality effort in 1995, Jack Welch, the then chairman and legendary champion for the cause of Six Sigma, strongly encouraged his chief employees to become "passionate lunatics" about Six Sigma. Welch's adoption of Six Sigma, and General Electric's ensuing success, greatly contributed to Six Sigma's recognition as a powerful method for business improvement in organizations. So, what is Six Sigma and why do so many successful organizations attribute their success to it? This course largely deals with answering these questions. The course traces Six Sigma's roots in traditional quality concepts, but also shows that it is not just about quality; it is also a metric, a philosophy, a balanced scorecard, and a quality management system. This course demonstrates how to estimate Sigma level and how Six Sigma methodologies are strategically applied to a broad array of manufacturing and service organizations. The course also explores Six Sigma business goals and the mission critical role of Champions for achieving these goals.

### Target Audience

Members of top management, vice-presidents, directors, divisional managers and senior functional managers selected to work directly as champions or potential champions. Champions include those people who own the processes to be improved, make resources available, evaluate financial cost justifications, and supervise the individuals selected as Black Belts and Green Belts.

### Expected Duration

3.0 hours

### Objectives :

#### Lesson Overview

- recognize the benefits of implementing Six Sigma

#### A Business Case for Six Sigma

- match Six Sigma goals to examples of how those goals are achieved in a company

#### The Six Sigma Methodology

- match Six Sigma methodologies for business improvement to examples of situations in which they can be used

#### Lesson Overview

- recognize why Six Sigma is favored over other quality tools
- identify the common objectives of Six Sigma and other quality tools

#### Six Sigma and Total Quality Management

- identify what makes Six Sigma a more all-encompassing process-improvement technique than TQM



### Linking Six Sigma with Balanced Scorecard

- match the elements of BSC and Six Sigma to examples of their implementation in a business improvement system
- recognize the key elements Six Sigma draws from the BSC approach

### Lesson Overview

- recognize the importance of understanding the roles of other players in a Six Sigma organization

### Six Sigma Organizational Architecture

- analyze a RACI model implementation in a Six Sigma scenario
- match Six Sigma roles with examples of the responsibilities each role entails

### Roles of a Six Sigma Champion

- determine the appropriate role a Champion should play at various stages of a Six Sigma program

Course Number: oper\_03\_a01\_bs\_enus

## Leadership in Six Sigma

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### Overview/Description

Six Sigma has become synonymous with quality in the business world, but there is no prescriptive process for planning and launching a Six Sigma initiative. Each business must learn to call upon the strengths and abilities of its diverse professionals, from executives to highly trained technical specialists. What are the roles of each in the Six Sigma process? What planning should take place to launch their efforts? How can you tell whether your organization is really ready to take on Six Sigma? What is the proper culture, and can your organization achieve it? And how should the transition be managed? This course examines these crucial issues, as well as providing insight into the organizational responsibilities of Six Sigma participants, and the essential strategic training they will require.

### Target Audience

Candidates for Black Belt certification; managers/executives overseeing personnel involved in the implementation of Six Sigma in their organization; consultants involved in implementing a Six Sigma proposal; and organizations implementing a Six Sigma project

### Expected Duration

3.0

### Lesson Objectives:

#### Enterprise Leadership in Six Sigma

- identify the benefits of strategic planning and leadership in the deployment of Six Sigma.
- determine which step of assessing organizational culture and readiness for Six Sigma has been completed.
- determine whether a manager has successfully fulfilled responsibilities in the early stages of Six Sigma, in a given scenario.
- match the roles within a Six Sigma organizational structure to their functions.
- match roles to appropriate examples of typical responsibilities within a Six Sigma organizational structure.
- determine whether the elements of managing change under Six Sigma are present in a given situation.



## Six Sigma Roles and Responsibilities

- select the benefits associated with diverse roles and responsibilities of Six Sigma participants.
- determine which Six Sigma project roles are being performed in a given scenario.
- determine which roles of a Black Belt are being performed in a satisfactory manner when presented with an example.
- identify examples of the three types of training that belong in every Six Sigma training curriculum.

Course Number: OPER0162

# Managing and Deploying Six Sigma

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## Overview/Description

"The vision must be followed by the venture. It is not enough just to stare up the steps - we must step up the stairs." — Vance Havner, author. However, venturing into Six Sigma is not easy. Deploying Six Sigma is where "the tire hits the road." It requires a lot of hard work and planning. As a Six Sigma Champion, you'll need to plan for and deal with critical Six Sigma deployment issues, develop business-aligned deployment strategies, ensure continued buy-in from top management, and integrate metrics for continuous feedback and review into your plan. This course addresses all of these challenges, as well as how to manage change during and after Six Sigma deployment. It focuses on a systemic, long-lasting deployment, and on delivering promised business results rather than obsessing over implementing projects. This course integrates essential Six Sigma concepts, tools, and methodologies enabling you to deliver excellent business results. A case-based approach is followed throughout to demonstrate how some incredible companies applied the concepts and tools to real-world Six Sigma situations and achieved huge Six Sigma breakthroughs. These breakthroughs include increased customer value and quality, significant reductions in costs, wastes and postproduction maintenance, intellectual capital development, remarkable growth in top line and bottom line, and major culture change.

## Target Audience

Members of top management, vice presidents, directors, divisional managers, and senior functional managers selected to work directly as Champions or potential Champions; Champions include those people who own the processes to be improved, make resources available, evaluate financial cost justifications, and supervise the individuals selected as Black Belts and Green

Belts

## Expected Duration

3.5 hours

## Objectives :

## Lesson Overview

- recognize the importance of assessing an organization's Six Sigma readiness

## Six Sigma Deployment Roadmap

- associate the activities undertaken by a company with the stages in a Six Sigma deployment roadmap, in a given scenario



### **Strategies for Successful Six Sigma Deployment**

- apply successful strategies for Six Sigma deployment in a given scenario

#### **Lesson Overview**

- identify the activities involved in managing resistance to change

### **Six Sigma Change Dynamics**

- recognize examples of resistance to the changes caused by Six Sigma deployment

### **Managing and Implementing Six Sigma Change**

- manage change caused by Six Sigma in a given scenario
- recognize how team performance is affected during each stage of Six Sigma change

#### **Lesson Overview**

- recognize the benefits of reviewing a Six Sigma deployment

### **Strategic Analysis and Evaluation of Six Sigma Results**

- ascertain areas for improvement in a Six Sigma deployment

### **Planning a Training Curriculum for Six Sigma**

- recognize the essential elements of a training program for Six Sigma team members

### **Leveraging Six Sigma Learning**

- recognize points used to leverage knowledge in the role of the Champion

Course Number: oper\_03\_a04\_bs\_enus

## **Scoping the Six Sigma Project**

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### **Overview/Description**

Six Sigma® Black Belts are called upon to solve problems that have no known solutions. This is a risky endeavor. Yet Six Sigma deployment has a track record of success. One of the keys to its success is proper project scoping. No one wants to try to do it all with a single opportunity. Six Sigma projects need to be selected mindfully and scoped appropriately. Yet, without known solutions, identifying projects that will truly impact customer service while also improving the bottom line can be challenging. When pressure mounts, it's tempting to act too quickly and possibly solve the wrong problem. In this course, you'll learn what a Six Sigma team should focus on, and more importantly, what the team should avoid in order to make Six Sigma projects successful. You'll learn to avoid common mistakes and pitfalls that can trip up even the most experienced Six Sigma leader. This course revisits many of the activities of the Define step of the Define, Measure, Analyze, Improve, and Control (DMAIC) process. These activities will be explored to ensure that the right problem is being solved in the best way possible using appropriate metrics and goals. Six Sigma® is a registered Trademark of Motorola Corporation, and all rights, title, and interest in Six Sigma belongs to Motorola.



#### **Target Audience**

Candidates for Black Belt certification; managers/executives overseeing personnel involved in the implementation of Six Sigma in their organization; consultants involved in implementing a Six Sigma proposal; and organizations implementing a Six Sigma project

#### **Expected Duration**

3.0

#### **Lesson Objectives:**

##### **Selecting and Scoping Projects**

- select the benefits of reviewing project selection and scope before initiating a Six Sigma project.
- match criteria for selecting appropriate Six Sigma projects with examples.
- match potential project scope pitfalls with examples.
- match mistakes associated with selecting processes for improvement with examples.
- match the steps for selecting the right processes with examples.
- apply the steps for selecting the right processes to improve in a given scenario.

##### **Solving the Problem**

- identify the benefits of solving problems methodically for Six Sigma projects.
- match the steps for defining a problem with examples.
- match requirements for an effective problem statement with examples.
- determine the best problem statement for a Six Sigma project in a given scenario.
- match descriptions of Six Sigma tools that can help establish project baseline and bottom line benefits with their appropriate visual examples.
- match metric and goal characteristics with examples.

Course Number: OPER0181

## **Six Sigma and Critical Customer Requirements**

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#### **Overview/Description**

Mark Twain once said, "Everybody talks about the weather but nobody does anything about it." Unlike the weather, serving customer needs is something companies actually can do something about. Quality Function Deployment (QFD) is a systematic process for motivating a business to focus on its customers. In a Six Sigma® environment, such a focus is central to success. In this course, you'll learn how QFD works. You'll explore ways to listen to the voice of the customer and how to understand that voice in substantive terms. You'll learn to use effective tools to examine what your customers say they need and to determine from those statements what they really need. Finally, you'll learn to build the House of Quality, the graphical expression of QFD, and how to analyze the information you build into it. Six Sigma® is a registered Trademark of Motorola Corporation, and all rights, title, and interest in Six Sigma belongs to Motorola.

#### **Target Audience**

Candidates for Black Belt certification; managers/executives overseeing personnel involved in the implementation of Six Sigma in their organization; consultants involved in implementing a Six Sigma proposal; and organizations implementing a Six Sigma project

#### **Expected Duration**

2.0

#### **Lesson Objectives:**



### Understanding the Voice of the Customer

- identify the benefits of understanding the voice of the customer.
- match elements of going to the Gemba with examples.
- match the Kano model categories with examples.
- determine the appropriate Kano Model category on which to focus customer improvement efforts for a given business scenario.

### The House of Quality

- identify the benefits of using the House of Quality.
- match HOQ components with examples of their content.
- select examples of HOQ interpretational elements.

Course Number: OPER0178

## Six Sigma and the Corporate Enterprise

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### Overview/Description

What exactly is Six Sigma®, and why is it important to your company? This course helps you to make that determination through a discussion of basic concepts underlying the Six Sigma philosophy. A broad overview is provided of the initial development of Six Sigma; Six Sigma's uses in leading companies to date; the benefits to be realized by successful deployment, and the metrics and core competencies crucial to its use. You'll also learn why Six Sigma emphasizes the alignment of business systems and processes; how to create a framework for business process management; and the applications for Six Sigma in manufacturing, service, and health care industries. Six Sigma is a registered Trademark of Motorola Corporation, and all right, title and interest in Six Sigma belongs to Motorola.

### Target Audience

Candidates for Black Belt certification; managers/executives overseeing personnel involved in the implementation of Six Sigma in their organization; consultants involved in implementing a Six Sigma proposal; and organizations implementing a Six Sigma project

### Expected Duration

3.0

### Lesson Objectives:

#### The Value of Six Sigma

- identify the benefits of understanding the business methodology of Six Sigma.
- identify key issues in the development and application of Six Sigma.
- determine which strategies for Six Sigma should be implemented, and provide justification.
- recognize key concepts related to the Six Sigma metric.
- determine whether phases in the DMAIC problem-solving approach and tollgate process have been completed.

#### Business Systems and Processes

- identify the importance of distinguishing interrelationships between business systems and processes.
- determine when to apply process improvement, process design/redesign/reengineering, and process management.
- select examples of procedures for using Six Sigma to create a framework for business process management.
- determine the Six Sigma application that has been used in a service, health care, or manufacturing environment.

Course Number: OPER0161



## Six Sigma and the Voice of the Customer

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### Overview/Description

Do you know the phrase, "caveat emptor"? It's a Latin term that means, "Let the buyer beware." It's also a legal principle stating that consumers must purchase goods at their own risk, because unless specifically asked, the seller is generally under no obligation to disclose defects. Caveat emptor once struck fear in the hearts of many wary consumers. Fortunately, the tide has turned. Increased market competition, modern consumer protection laws, and expanded customer awareness have helped negate the influence of this business maxim. Today, organizations are admonished to heed the voice of customers and give them what they really want. "Voice of the customer," or VOC, is a Six Sigma® term that refers to customers' actual, as opposed to assumed, product and service needs and desires. This course, Six Sigma and the Voice of the Customer, is a guide to understanding VOC and Six Sigma's strategies for identifying customers and collecting customer data. In Lesson One, you'll learn about different customer types and prioritizing those customers. In Lesson Two, you'll learn about customer data sources and methods for collecting that data. Six Sigma is a registered Trademark of Motorola Corporation, and all rights, title, and interest in Six Sigma belongs to Motorola.

### Target Audience

Candidates for black belt certification; managers/executives overseeing personnel involved in the implementation of Six Sigma in their organization; consultants involved in implementing a Six Sigma proposal; and organizations implementing a Six Sigma project

### Expected Duration

2.0

### Lesson Objectives:

#### Identifying the Customer

- recognize the benefits of knowing how to identify customers for a Six Sigma project.
- determine if a Six Sigma team has implemented an effective voice of the customer strategy and indicate why or why not.
- match internal and external customer categories with examples.
- classify examples of hidden customers being discussed in a given business scenario.
- identify questions that a Six Sigma team must consider when identifying stakeholders.
- sequence examples of the steps used to segment customers.
- select examples of the steps for segmenting customers in a given business scenario.

#### Collecting Customer Data

- recognize the benefits of knowing how to collect customer data for a Six Sigma project.
- match reactive customer data sources that are used to capture the voice of the customer with examples.
- match proactive data gathering methods that are used to capture the voice of the customer with examples.

Course Number: OPER0177



## Six Sigma DMAIC: Analyzing the Data

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### Overview/Description

There's one thing that doctors, mechanics, and detectives sometimes share in common--getting to the source of something that's gone wrong in a system. Things go wrong in business systems too, and to get at the source of the problem, you have to dig down deep. This course is all about making sure Six Sigma Green belts and team members dig deep enough, to where the solutions are simplest. In order to employ Six Sigma, you need information on how to use the data that's relevant to the problems in your business process. In Lesson 1 you'll explore the best methods to present and interpret the data that reflects a problem. In Lesson 2 you'll look at the skills and tools that can help you analyze the data to get at the real cause and the effects of the problem. In Lesson 3 you'll focus on the tools that can help you verify that the causes you have isolated are in actuality the problem.

### Target Audience

Potential Six Sigma Green Belts and other Six Sigma team members in companies that have already made the decision to implement Six Sigma

### Expected Duration

5.5

### Lesson Objectives:

#### Data Presentation

- recognize the benefits of using visual tools to present data about a defect in a business process.
- match four methods used to chart the raw data associated with a defect in a business process to descriptive examples.
- match business issues with appropriate data charts.
- select the correct interpretations associated with different patterns of three data charts.

#### Cause and Effect Analysis

- recognize the benefits of using root cause analysis to address problems in business processes.
- identify the four steps associated with the construction and use of the fishbone diagram after a team has identified a problem and made it the "head" of the diagram.
- apply the steps of Five Why analysis to determine the root cause of a hypothetical business problem.

#### Verifying Causes

- recognize the benefits of using data to verify the root causes of problems associated with business processes.
- identify accurate statements about the stratified frequency diagram.
- apply the procedures for gathering and utilizing data for a stratified frequency diagram in a workplace scenario.
- designate the appropriate hypothesis to represent a process variation being tested in an hypothesis test.
- match five patterns commonly seen in scatter diagrams with their interpretation.
- apply the five steps correctly to construct a scatter diagram in a workplace scenario.

Course Number: OPER0145



## Six Sigma DMAIC: Analyzing the Process

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### Overview/Description

Imagine the perfect cup of coffee--it tastes and smells great, it's served at exactly the right temperature, and, best of all, it satisfies you every time. Because it's perfect, you find yourself returning again and again to the cafe that sells it. The perfect cup of coffee--or the perfect product or service--is what Six Sigma is all about. To achieve Six Sigma, a product or service has to be 99.9 percent error-free. As far as your perfect cup of coffee is concerned, error-free means that every cup sold is 99.9 percent consistent in taste and temperature. To achieve this level of perfection (or consistency) for your product or service, you have to analyze and "map" the process to eliminate any defect from the system. Mapping the process that creates the defects--for example, a cup of coffee that's "off" in flavor or temperature--and analyzing it, is the focus of this course. Specifically, the course offers methods for Six Sigma Green Belts and team members to put simple flowcharts to use to improve business processes that create defects. In Lesson 1 you'll explore the world of flowcharts. You'll learn what symbols to use in them, how to construct them, and why they're useful in pinpointing the trouble spots in your own business process. In Lesson 2 you'll learn how to put flowcharts to work to eliminate the problems in a process and to add value for customers to existing business processes.

### Target Audience

Potential Six Sigma Green Belts and other Six Sigma team members in companies that have already made the decision to implement Six Sigma

### Expected Duration

3.0

### Lesson Objectives:

#### Flowcharts

- recognize the benefits of mapping a business process with a flowchart.
- match the most common elements used to create flowcharts with their graphic symbols.
- sequence the five steps used to construct a flowchart.
- apply steps to construct a flowchart, given a hypothetical scenario.
- apply methods to validate a flowchart in a workplace situation.

#### Flowchart Analysis

- recognize the benefits of using a flowchart to highlight areas for improvement in a business process.
- identify when inspections can be eliminated from a business process.
- identify the attributes of a flowchart that indicate a backward loop in a business process.
- select the appropriate steps for addressing handoffs.
- select descriptions of value-added procedures.
- recommend ways to add value for customers to hypothetical business procedures.

Course Number: OPER0146



## Six Sigma DMAIC: Controlling the Improved Process

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### Overview/Description

Have you ever worked hard to improve yourself in some way--for example, to lose or gain weight, or to exercise regularly? If you have, you know that you have to work just as hard to maintain your progress. The same thing can be said about an improvement in a business process. Six Sigma Green Belts and team members work hard to achieve the Six Sigma level of perfection in a process, and they have to work just as hard to maintain it. In this course you'll focus on maintaining quality--or, in Six Sigma language, on "controlling" the improved process. In Lesson 1 you'll look at quality control. You'll see how to build quality control "checks" into an improved process, and how to develop the best quality control plan. In Lesson 2 you'll see how you can continuously monitor an improved process by using simple charting tools. Because Six Sigma is a long term commitment, you'll also explore tips and tactics for maintaining the Six Sigma level of perfection through the ownership of the responsibilities for ongoing quality.

### Target Audience

Potential Six Sigma Green Belts and other Six Sigma team members in companies that have already made the decision to implement Six Sigma

### Expected Duration

4.0

### Lesson Objectives:

#### Maintaining Quality

- recognize the benefits of using quality control and standardization to maintain an improved process.
- identify four methods for checking quality at three checkpoints.
- apply four methods for checking quality at three checkpoints in a hypothetical business process.
- identify the steps to develop a quality control plan for the improved process.
- apply the steps to develop a quality control plan for an improved process in a hypothetical business scenario.
- identify the methods used to standardize a business process.
- recommend the preferred method to standardize a hypothetical business process.

#### Monitoring Quality with Control Charts

- recognize the benefits of using a control chart to monitor quality.
- identify three uses for control charts.
- match the elements of a control chart with graphic examples.
- select patterns in control charts which indicate that an investigation into the process producing the pattern is needed.
- identify four methods for committed process owners to monitor an improved business process.
- apply four methods for committed process owners to monitor an improved business process.

Course Number: OPER0148



## Six Sigma DMAIC: Defining the Problem

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### Overview/Description

"What's your problem?" It could be said that this is one way to get to the heart of a matter. Of course, there's a better way. In this course, Six Sigma DMAIC: Defining the Problem, Six Sigma Green Belts and team members are given a systematic, objective, and measurable process for quantifying the challenges facing your organization. In lesson one, "The Project Charter," you'll learn guidelines for developing a problem statement, measuring your Six Sigma project, and determining its goal. In the second lesson, "The SIPOC Diagram," you'll learn how to create, and then apply, this useful tool to your unique situation. Finally, in "Stakeholder Analysis," you'll learn the subtleties of identifying and managing the very people whose buy-in you need to guarantee the success of your Six Sigma project.

### Target Audience

Potential Six Sigma Green Belts and other Six Sigma team members in companies that have already made the decision to implement Six Sigma

### Expected Duration

4.0

### Lesson Objectives:

#### The Project Charter: Focusing on the Problem

- recognize the benefits of creating a project charter.
- apply the guidelines for developing a problem statement in a given business situation.
- modify the approach a company takes to measure a hypothetical problem in a business process.
- select statements that reflect the guidelines used to create a SMART project goal.

#### The SIPOC Diagram: Communicating the Problem

- recognize the benefits of using a SIPOC diagram.
- match the elements of the SIPOC diagram with examples of each.
- apply the steps for creating a SIPOC diagram for a given business scenario.

#### Stakeholder Analysis: Reducing Resistance to Change

- recognize the benefits of employing stakeholder analysis.
- identify which questions to ask when identifying stakeholders.
- match levels of stakeholder commitment with examples of each.
- employ strategies for effectively managing stakeholder commitment in a given business situation.

Course Number: OPER0143

## Six Sigma DMAIC: Improving the Process

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### Overview/Description

Laotzu, a Chinese philosopher, said, "The biggest problem in the world could have been solved when it was small," but as far as business processes are concerned, even catching a problem when it's small might not get at the root cause. Six Sigma Black Belts know that to find the root cause of a problem, you have to develop an improvement strategy, and then use precision tools to employ the improvement strategy and target the problem with perfect accuracy. In this course Six Sigma Green Belts and team members will explore the tools and techniques for developing an improvement strategy. You'll also look at why, how, and when to pilot an improvement plan, and how to avoid common pitfalls. In Lesson 1, Creating an Improvement Plan, you'll consider how to work only the best ideas into an improvement plan by brainstorming improvement ideas, and by making effective use of the prioritization matrix. You'll also be introduced to FMEA (Failure Modes and Effects Analysis) and DoE (Design of Experiment analysis), sophisticated analysis tools which can be used when the conditions are right. In Lesson 2, Building Support for an Improvement Plan, you'll explore why you should pilot an improvement plan. You'll also consider the key components of an implementation plan, and the best strategies for marketing the plan.

### Target Audience

Potential Six Sigma Green Belts and other Six Sigma team members in companies that have already made the decision to implement Six Sigma

### Expected Duration

4.5

### Lesson Objectives:

#### Creating an Improvement Plan

- recognize the benefits of developing an improvement plan based on the appropriate use of tools.
- match the rules for effective brainstorming with descriptive examples.
- identify the steps for developing a prioritization matrix to evaluate alternative solutions.
- apply the steps for developing a prioritization matrix for the solutions to a hypothetical problem.
- identify the steps for calculating an RPN (risk priority number) for process failures detected by FMEA.
- calculate the RPN (risk priority number) for a hypothetical process failure detected by FMEA.
- identify characteristics of situations when it is appropriate to use DoE (Design of Experiments) analysis.
- apply situational criteria to determine whether DoE is indicated in a hypothetical business situation.

#### Building Support for an Improvement Plan

- identify the benefits of building support for an improvement plan.
- identify the key components of an implementation plan.
- use key components to develop an implementation plan for a hypothetical Six Sigma project.
- identify reasons to pilot an improvement plan.
- identify strategies for marketing an improvement plan.
- apply strategies for marketing a hypothetical improvement plan.

Course Number: OPER0147



## Six Sigma DMAIC: Measuring the Process

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### Overview/Description

Would you use your thumb and forefinger to measure how much carpet you need to buy for a new room in your house? By the same token, do you have the right tools for measuring a process in your organization that just isn't working? "Six Sigma DMAIC: Measuring the Process," provides Six Sigma Green Belts and team members with techniques for precisely pinpointing the source of problems--and precisely measuring them. That means you'll learn what to measure, the five types of data that can be collected, the relative strengths of the Defects per Unit (DPU) and Defects per Opportunity (DPO) measurement techniques, and key applications for data stratification. In addition, you'll be supplied with three tools for collecting data, four data sampling methods, and guidelines for creating your own data collection plan.

### Target Audience

Potential Six Sigma Green Belts and other Six Sigma team members in companies that have already made the decision to implement Six Sigma

### Expected Duration

5.0

### Lesson Objectives:

#### Data Collection

- recognize the benefits of learning the fundamentals of sound data collection.
- select examples of the elements of a data collection plan.
- match the categories of data (continuous data and discrete data) with examples of their corresponding data types.
- match the advantages of continuous data and discrete data with examples of each, and match the disadvantages of continuous data and discrete data with examples of each.
- designate the appropriate data collection technique to use in a given business situation.
- apply the criteria to develop a valid data sample in a business data collection scenario.

#### Data Measurement

- recognize the value of measuring the appropriate data.
- match the three parts of a process that can be measured with examples of each.
- select examples of the criteria used to ensure a data measurement technique is valid.
- identify examples of the four data stratification questions in the data stratification model.
- apply the data stratification model to a hypothetical business problem.
- match the DPU and DPO defect measurement techniques with examples of each.
- calculate the appropriate defect measurement technique for a given business scenario.

Course Number: OPER0144



## Six Sigma Introduction

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### Overview/Description

There has been an increased interest in Six Sigma in recent years. But what is Six Sigma? This course will introduce you to the foundational concepts of the Six Sigma philosophy and process. It will help you successfully participate in your organization's Six Sigma program. First, you will learn how poor quality harms your business. You will explore what Six Sigma means and the critical elements of the approach. You will gain an understanding of the new roles that some employees will fill. This course will introduce you to a straightforward framework for satisfying your customers, reducing waste, and increasing efficiency and quality in your organization. You will then examine how you can meet Six Sigma challenges and the skills you will need to grow in a Six Sigma organization. As a result of taking this course, you will have an internal understanding of Six Sigma. You will then be able to recognize processes that need improving. You will be able to meet the Six Sigma challenge and assist in building a Six Sigma culture.

### Target Audience

This course is designed for all employees of an organization beginning a Six Sigma implementation.

### Expected Duration

3.5

### Lesson Objectives:

#### Six Sigma in Your Organization

- recognize the organizational benefits of the Six Sigma methodology.
- match the quality cost categories to organizational costs that comprise each.
- match the five critical elements of Six Sigma to organizational activities that accomplish each.
- select statistical measures that more closely reflect Six Sigma performance within an organization.
- select business activities that represent the two types of variation and the Pareto Principle.

#### How Six Sigma Affects You

- recognize the benefits of being part of a Six Sigma implementation.
- match the Six Sigma roles to the business activities of employees involved in Six Sigma.
- sequence the DMAIC team life-cycle.
- identify the steps in the DMAIC problem-solving model.
- identify examples of the challenges that are faced by an employee when Six Sigma is implemented within an organization.
- associate the capabilities for successful Six Sigma participation to activities that accomplish each.
- apply Six Sigma capabilities to successfully participate in the Six Sigma initiative of an organization.

Course Number: OPER0131



## Six Sigma Management and Planning Tools

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### Overview/Description

In the 1970s, a group of seven "new" tools for quality management were developed in Japan. When they reached America in the 1980s and 1990s, they were renamed the Management and Planning (MP) tools. Used separately or in combination, they are powerful tools in the Six Sigma® approach for insuring quality and continuous improvement. This course will cover the seven tools--affinity diagrams, interrelationship digraphs, tree diagrams, activity network diagrams, cause-and-effect matrices, prioritization matrices, and process decision program charts (PDPC). Six Sigma is a registered Trademark of Motorola Corporation, and all rights, title and interest in Six Sigma belongs to Motorola.

### Target Audience

Candidates for Black Belt certification; managers/executives overseeing personnel involved in the implementation of Six Sigma in their organization; consultants involved in implementing a Six Sigma proposal; and organizations implementing a Six Sigma project

### Expected Duration

1.5

### Lesson Objectives:

#### Diagrams

- recognize the advantages of using management and planning diagrams in the workplace.
- sequence the steps for creating an affinity diagram.
- identify examples of situations when the affinity diagram is most useful.
- determine the root causes and root effects on an interrelationship digraph.
- recognize logical connections within a given tree diagram.
- interpret an activity network diagram.

#### Matrices and Process Charts

- recognize the advantages of using management and planning matrices and charts.
- identify components of a cause-and-effect matrix.
- interpret a prioritization matrix.
- sequence examples of the steps in completing a process decision program chart.

Course Number: OPER0176



## Six Sigma Process Improvement

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### Overview/Description

In the world of business you cannot expect faulty processes to deliver outstanding organizational results. Six Sigma offers many ways to improve your organization's processes, based on your priorities and business requirements. Whenever you delve into process improvement, you have the option to create new processes altogether or replace old processes with new ones. Six Sigma Champions generally choose to improve upon existing processes.

This course is designed to help Champions learn how to use Six Sigma's Define - Measure - Analyze - Improve - Control (DMAIC) methodology to upgrade current processes. It also explores using Six Sigma tools and methods to understand customer requirements, recognize the gaps between current deliverables and customer needs, analyze the root causes of process shortfalls, and finally use Six Sigma tools to improve inefficient processes. This course introduces you to Six Sigma tools and their application in Six Sigma methodology using a keep-it-simple-statistically approach ideal to a Champion's strategic role.

### Target Audience

Members of top management, vice presidents, directors, divisional managers, and senior functional managers selected to work directly as champions or potential Champions. Champions include those people who own the processes to be improved, make resources available, evaluate financial cost justifications, and supervise the individuals selected as Black Belts and Green Belts.

### Expected Duration

3.0 hours

### Objectives :

#### Lesson Overview

- recognize the benefits that can be gained from process improvement

#### Voice of the Customer and Quality Function Deployment

- recognize examples of how to improve a process using Six Sigma's voice of the customer and quality function deployment

#### Building a Framework for Process Mapping

- sequence examples of the steps in building a business process map

#### Root Cause Analysis

- match the scenario to the most appropriate root cause analysis tool

#### Lesson Overview

- recognize the advantages of using the DMAIC methodology

#### DMAIC - The Define Stage

- match the appropriate Six Sigma tools you would use to examples of the steps in the Define stage of DMAIC



- sequence examples of the steps in the Define stage of the DMAIC process

#### **DMAIC - The Measure Stage**

- recognize suitable Six Sigma tools to use in the Measure stage of DMAIC

#### **DMAIC - The Analyze Stage**

- recognize the tools and techniques to use to achieve the objectives of the Analyze stage of DMAIC

#### **DMAIC - The Improve Stage**

- recognize the tools used to achieve objectives in the Improve stage of DMAIC

#### **DMAIC - The Control Stage**

- recognize the tools used to achieve objectives in the Control stage of DMAIC

Course Number: oper\_03\_a02\_bs\_enus

## **Six Sigma Projects and Project Teams**

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### **Overview/Description**

"Managers are people who do things right, while leaders are people who do the right thing," says Warren Bennis, Ph.D. in his book "On Becoming a Leader." Champions are leaders. Selecting the right Six Sigma projects and the right people, and leading them to achieve business goals, is vital to the leadership of Champions.

This course deals with these important roles of Champions. It also provides Champions with a toolkit to measure and analyze a project thoroughly before it is selected for Six Sigma improvement. The roadmap for selecting Black Belts and other team members needed to build a winning project team is also explored. Champions will learn how to shape and align the dynamics of their sponsored team to the organization's business goals. Finally, the course demonstrates the all-important Champion role of acting as a conduit between project teams and top management.

### **Target Audience**

Members of top management, vice presidents, directors, divisional managers and senior functional managers selected to work directly as Champions or potential Champions

### **Expected Duration**

2.5 hours

### **Objectives :**

### **Lesson Overview**

- recognize the benefits of effective project selection

### **Developing Project Selection Metrics**



- sequence examples of the steps in the metric selection process

#### **Identifying and Selecting Six Sigma Projects**

- select the best Six Sigma projects for a given scenario using predetermined metrics

#### **Drafting a Charter for Selected Projects**

- recognize the essential elements in drafting a charter for a selected project

#### **Lesson Overview**

- recognize the importance of the Six Sigma Champion's role in selecting and building project teams

#### **Selecting Black Belts and Other Team Members**

- determine the composition of a Six Sigma team, for a given scenario, by selecting suitable Black Belt candidates and team members

#### **Six Sigma Team Building Process**

- manage the team building process in a given scenario

#### **Leading Six Sigma Teams to Business Goals**

- apply strategic leadership competencies for Six Sigma success

Course Number: oper\_03\_a03\_bs\_enus

## **Six Sigma Team Dynamics and Performance**

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#### **Overview/Description**

Yogi Berra once said, "The other teams could make trouble for us if they win." While the quote is just one of Mr. Berra's many adages, it does provide a clue to the importance the legendary baseball coach placed on effective teamwork. Teamwork is no less important in the Six Sigma® world. In fact, more than one Six Sigma expert has stated unequivocally that without effective teamwork, a process improvement project will fail. So how is effective teamwork ensured? The best way is by understanding Six Sigma team dynamics--that is, the way in which team members work together and interact. The more that team members understand team dynamics, the greater the team's collective performance is likely to be. This course, Six Sigma Team Dynamics and Performance, is a guide for understanding and improving Six Sigma teamwork. You'll learn about team member roles, responsibilities, and interaction styles, as well as methods for resolving team and people problems. In addition, you'll learn about that all-important organization gathering, the team meeting. Specifically, you'll learn which factors lead to successful meetings, and how to collectively organize and choose group ideas. Six Sigma is a registered Trademark of Motorola Corporation, and all rights, titles and interests in Six Sigma belong to Motorola.

#### **Target Audience**

Candidates for black belt certification; managers/executives overseeing personnel involved in the implementation of Six Sigma in their organization; consultants involved in implementing a Six Sigma proposal; and organizations implementing a Six Sigma project

#### **Expected Duration**

3.0

#### **Lesson Objectives:**



### Team Dynamics

- identify the benefits a Six Sigma team can reap from understanding team dynamics.
- match Six Sigma team roles with examples.
- match Six Sigma team member interaction styles with examples.
- choose the example that resolves a people problem.
- match team problems with the appropriate method to avoid them.

### Team Meetings

- identify the benefits of understanding team meeting dynamics.
- identify examples of factors that should be determined at the first team meeting.
- sequence examples of the steps used in creating an affinity diagram.
- apply the steps used in creating an affinity diagram in a given business scenario.
- determine if a Six Sigma team used the multi-voting method correctly.

Course Number: OPER0174

## Six Sigma Team Leadership

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### Overview/Description

By addressing customer needs, streamlining processes, minimizing variance, and addressing poor quality and inefficiency, Six Sigma® can encourage a more profitable and sustainable business. The development and leadership of an effective team is critical if these outcomes are to be achieved. An effective Six Sigma team comprises the right people using their skills in collaboration with each other to address the needs of the customer and the project. This course provides potential team leaders with strategies for selecting the right team members and assigning roles within the team. When the team has been formed, the role of team leader changes to that of a facilitator, leader, and motivator. This course provides you with the techniques and skills required to build a team that can deliver your Six Sigma project. Six Sigma is a registered Trademark of Motorola Corporation, and all rights, title, and interest in Six Sigma belongs to Motorola.

### Target Audience

Candidates for Black Belt certification; managers/executives overseeing personnel involved in the implementation of Six Sigma in their organization; consultants involved in implementing a Six Sigma proposal; and organizations implementing a Six Sigma project

### Expected Duration

3.0

### Lesson Objectives:

#### Team Selection and Initiation

- recognize the importance of selecting and initiating effective teams.
- match characteristics of effective Six Sigma team members to corresponding examples.
- match team member roles with descriptions of their responsibilities.
- identify roles based on examples of the responsibilities of the team members for a given team.
- match actions taken to initiate effective teamwork with examples.



## Building an Effective Team

- recognize the importance of building effective teams.
- match the stages of team development with descriptions.
- determine what stage of team development has been reached for a given team.
- facilitate teamwork in a given situation.
- empower team members in a given situation.

Course Number: OPER0173

# Six Sigma: Listening to the Voice of the Customer

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## Overview/Description

"Let the buyer beware." That old business maxim of caveat emptor once struck fear in the hearts of many wary consumers. Now there's a new reality: Competition for consumer attention is intense across all industries and markets, so now it's the company itself which is being admonished to beware. That means businesses should be looking for the best way to gauge what its customers really need and want. In "Six Sigma: Listening to the Voice of the Customer," Six Sigma Green Belts and team members learn that best way. The course consists of two lessons: "Understanding Customer Requirements," and "Defining Customer Requirements." In lesson one, you'll discover methods for specifically identifying your customers--that means all your customers, including ones you may not have realized you serve--and you'll learn how to apply the Kano Model to understanding customer requirements in your workplace. In the second lesson, you'll take your understanding of your customers to a higher level by learning how to measure their requirements to the nth degree. You'll learn all about customer-valued product and service "dimensions," how to create an affinity diagram and a critical-to-quality tree, and you'll discover how to formulate the all-important operational definitions for your Six Sigma strategy.

## Target Audience

Potential Six Sigma Green Belts and other Six Sigma team members in companies that have already made the decision to implement Six Sigma

## Expected Duration

5.5

## Lesson Objectives:

### Understanding Customer Requirements

- recognize the benefits of understanding customer requirements.
- apply the steps for identifying customers in a given business scenario.
- match the different types of customers with examples of each.
- identify sources of descriptive customer data as either reactive or proactive.
- match the categories of the Kano model with examples of each.
- determine the appropriate Kano Model category on which to focus customer improvement efforts for a given business scenario.

### Defining Customer Requirements

- recognize the benefits of clearly defining customers' requirements.
- identify examples of product and service quality dimensions.



- apply the steps used in creating an affinity diagram in a given business scenario.
- sequence the steps involved in creating a critical-to-quality tree.
- apply the steps for creating a critical-to-quality tree in a given business scenario.
- select examples of criteria that ensure an operational definition is valid.
- determine if the operational definition for a given business scenario is valid.

Course Number: OPER0142

## Six Sigma: Reducing Variation to Improve Quality

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### Overview/Description

"What, do you expect everything to be perfect?" How would you respond if one of your employees said that to you? You might consider saying, "Well, yes!" In fact, striving for near perfect quality is reasonable and achievable. It's a matter of reducing variation through the use of Six Sigma. "Variation," or deviation from what the customer wants, may be inherent in the business world, yet by employing the principles of Six Sigma, the standard of 99.9997% perfection is within your grasp. It's just a matter of learning--and employing--those principles. In "Six Sigma: Reducing Variation to Improve Quality," you'll do just that. You'll begin by gaining a basic understanding of what variation is--why and where it exists and how it creates waste, and you'll learn key tools for identifying and measuring this waste in your organization. Next, you'll learn the key causes of variation and how to classify these causes as a step toward their elimination. You'll also learn the basics of process management. Finally, you'll be given a thorough review of the Six Sigma Team and the role each team member plays in attracting and eradicating variation. Then you'll apply the all-important DMAIC problem-solving model to real-world situations.

### Target Audience

Potential Six Sigma Green Belts and other Six Sigma team members in companies that have already made the decision to implement Six Sigma

### Expected Duration

4.0

### Lesson Objectives:

#### Reducing Variation

- recognize the benefits of reducing variation in business processes.
- select examples of the key characteristics of variation.
- select examples of the key characteristics of process capability.
- calculate the sigma level for a given business process.

#### Process Variations

- recognize the benefits of understanding the sources of variation in business processes.
- identify examples of sources of variation in business processes.
- match examples of variation with their appropriate category: either common cause or special cause.
- determine whether the causes of variation in a given business process scenario should be categorized as common cause or special cause.

#### The Six Sigma Process

- recognize the benefits of using the Six Sigma process.
- apply the Six Sigma process management steps in a given business situation.
- match the Six Sigma roles to the team activities involved in the Six Sigma process.
- analyze whether the DMAIC model has been correctly implemented in a given business process.





## Six Sigma--Lean Tools for Control

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### Overview/Description

Two key methodologies for improving operations in the manufacturing world are lean manufacturing and Six Sigma®. Both are designed to reduce variation, yet each takes a different track. While Six Sigma utilizes data and statistical analysis to measure and improve a company's operational performance, lean manufacturing collocates all of an organization's processes in sequential order, restructuring the manufacturing method to reduce wasteful activities, such as over-production, waiting, and material hand-offs. Whereas Six Sigma tools focus on an organization's specific aspects, lean tools evaluate the entire operation. In this course, you'll learn about both methodologies and how lean tools can be implemented during Six Sigma's Control phase. The purpose of Six Sigma's Control phase is to ensure that the previous improvements made by the Six Sigma team remain fixed, or in control, into the future. "Control" is the final step in the Six Sigma process improvement model, DMAIC (Define, Measure, Analyze, Improve, Control). Six Sigma is a registered Trademark of Motorola Corporation, and all rights, title, and interest in Six Sigma belongs to Motorola.

### Target Audience

Candidates for Black Belt certification; managers/executives overseeing personnel involved in the implementation of Six Sigma in their organization; consultants involved in implementing a Six Sigma proposal; and organizations implementing a Six Sigma project

### Expected Duration

2.0

### Lesson Objectives:

#### Lean Tools

- recognize the benefits of understanding Control phase lean tool concepts.
- match the 5S elements with examples.
- identify examples of visual management elements.
- determine if and why a visual management plan has been effectively applied in a given scenario.
- match each type of Kanban with its descriptions.
- determine whether a Six Sigma team has achieved full Jidoka in a given scenario.

#### Total Productive Maintenance and Standardized Work

- recognize the benefits of knowing how to apply total preventative maintenance and standardized work.
- identify examples of total productive maintenance plan elements.
- identify examples of standardized work elements.
- determine if and why a work process has been standardized.

Course Number: OPER0223



## Six Sigma--Measurement System Re-analysis

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### Overview/Description

Have you ever tried to change your life with a diet or exercise program, only to backslide and lose all the positive changes you made? It's easy to lose sight of the ultimate goal--improved health and fitness--after reaching your goal weight and fitness level. Maintaining positive changes takes just as much effort and vigilance as making the changes initially. Likewise for businesses--the benefits of Six Sigma performance aren't achieved simply by completing a series of projects. Achieving Six Sigma performance takes vision, commitment, time, and vigilance. To assist with maintaining gains, the Six Sigma Control phase outlines tools and techniques for the Black Belt to use. In this course, you will learn about Measurement System Re-analysis. During this phase, measurement system capability is re-assessed to ensure it remains adequate for the ever-improving process capability. You will focus on improving measurement system capability as the process capability improves. You'll learn about ongoing measures and actions used to sustain improvement and maintain the drive toward Six Sigma perfection. Six Sigma is a registered Trademark of Motorola Corporation, and all rights, title, and interest in Six Sigma belong to Motorola.

### Target Audience

Candidates for Black Belt certification; managers/executives overseeing personnel involved in the implementation of Six Sigma in their organization; consultants involved in implementing a Six Sigma proposal; and organizations implementing a Six Sigma project

### Expected Duration

2.5

### Lesson Objectives:

#### Improving Measurement System Capability

- recognize the benefits of re-analyzing measurement system capability.
- match the components of a measurement system with examples of how they can cause variation in measurements.
- match measurement types with examples.
- identify which steps in a measurement systems re-analysis are performed incorrectly and why.

#### Sustaining Six Sigma Performance

- recognize the benefits of working to sustain Six Sigma performance.
- identify examples of ongoing measures used to sustain Six Sigma performance.
- identify examples of Process Owner responsibilities.
- identify an appropriate process management strategy for sustainable improvement.
- identify components of a well-articulated deployment strategy.

Course Number: OPER0224



## Six Sigma--Statistical Process Control

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### Overview/Description

If you were an engineer charged with the health of a dam, would you fix a leak by pressing a cork into the crack? Would you consider such a solution permanent? When a Six Sigma® team imposes control measures on a process it has improved, it does so with the idea of making its improvements long-lasting. The Control phase of the DMAIC model (Define, Measure, Analyze, Inform, Control) doesn't rely on quick fixes. Instead, it applies statistical techniques that will monitor and control whatever variation arises in that improved process over time. A primary Six Sigma control method employed during this phase is statistical process control (SPC). SPC helps a process become, in a sense, self-regulating. This course, Six Sigma--Statistical Process Control, is a guide to understanding SPC and Six Sigma's strategies for ensuring that Improve phase gains stay fixed. In one lesson, you'll receive an overview of the DMAIC Control phase. In another lesson, you'll be introduced to SPC concepts and the all-important SPC tool, the control chart. Six Sigma is a registered Trademark of Motorola Corporation, and all rights, title, and interest in Six Sigma belongs to Motorola.

### Target Audience

Candidates for Black Belt certification; managers/executives overseeing personnel involved in the implementation of Six Sigma in their organization; consultants involved in implementing a Six Sigma proposal; and organizations implementing a Six Sigma project

### Expected Duration

1.5

### Lesson Objectives:

#### The Control Phase

- select all of the benefits of understanding Control phase concepts.
- determine if a Six Sigma team has implemented the steps for an effective Control phase strategy in a given scenario.
- match elements of a process control plan with examples.
- determine whether the guidelines for selecting Control phase measures have been observed.

#### Statistical Process Control

- recognize the benefits of understanding statistical process control concepts.
- identify examples of the key features of statistical process control.
- distinguish between examples of common cause and special cause variation.
- determine if a Six Sigma team has created a valid control chart.

Course Number: OPER0221



## The Importance of Metrics to Six Sigma

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### Overview/Description

In today's business climate, achieving and maintaining a competitive edge demands a continuous effort. Companies need to use key performance indicators and metrics that are critical in deploying Six Sigma® projects in order to determine how well their processes are really doing and what they can do to maintain high quality. This course examines how these performance metrics generate information that provides insight into a company's processes that help it implement better quality performance improvement activities. In addition the course will demonstrate the necessary steps to perform key performance metrics calculations. Six Sigma is a registered Trademark of Motorola Corporation, and all right, title, and interest in Six Sigma belongs to Motorola.

### Target Audience

Candidates for Black Belt certification; managers/executives overseeing personnel involved in the implementation of Six Sigma in their organization; consultants involved in implementing a Six Sigma proposal; and organizations implementing a Six Sigma project

### Expected Duration

1.5

### Lesson Objectives:

#### Using Performance Metrics

- recognize the benefits of using key Six Sigma performance metrics.
- determine the Defect per Unit rate for a given data set.
- calculate the Rolled Throughput Yield for a given data set.
- determine the Defects per Million Opportunities rate (DPMO) for a given data set.

#### Process Capability and Control

- recognize the benefits of using key Six Sigma process improvement metrics.
- apply Process Control and Process Capability analysis to quantify the capability of a process to meet specifications in a given scenario.
- match the steps of a Benchmarking process to examples.
- calculate Net Present Value (NPV) and Return on Investment (ROI) for a given data set.

Course Number: OPER0166



## The Six Sigma Change Agent

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### Overview/Description

What is a Six Sigma® change agent? How does one advocate change on a business-wide level? What are the skills required and the techniques used? In this course, you'll learn about the roles and responsibilities of the Six Sigma change agent. You'll explore ways to build a change management process and how to plan for change implementation. Effective communication is central to Six Sigma success, so this course will introduce you to the components of a successful communications strategy. Many organizations, and often even Six Sigma team members, are resistant to change. That's why this course offers you an introduction to the forms resistance to change takes at both the organizational and team levels. You'll also explore ways of overcoming resistance to change and of building a change-friendly environment. Six Sigma is a registered trademark of Motorola Corporation, and all rights, title, and interest in Six Sigma belong to Motorola.

### Target Audience

Candidates for Black Belt certification; managers/executives overseeing personnel involved in the implementation of Six Sigma in their organization; consultants involved in implementing a Six Sigma proposal; organizations implementing a Six Sigma project

### Expected Duration

2.5

### Lesson Objectives:

#### Six Sigma Change Management

- identify the benefits of understanding Six Sigma change management.
- match the roles of the Six Sigma change agent with corresponding descriptions.
- match the responsibilities of a Six Sigma change agent to examples.
- match the elements of building a change management process with descriptions.
- match the elements of building a change management process with examples.
- match the stages of change implementation with definitions.
- match the stages of change implementation with examples.
- match the components of a successful communications strategy to their descriptions.
- match components of a successful communications strategy with examples.

#### Understanding Resistance to Change

- identify the benefits of understanding resistance to change.
- classify examples of the types of resistance to change.
- match methods of overcoming resistance to change with examples.
- match the elements of a culture of change with examples.

Course Number: OPER0175



## The Six Sigma Project Charter and Plan

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### Overview/Description

What constitutes a project charter? How do you know whether you've set the right goals for your project? What tools can best help you plan your project? As you advance in this course--which focuses on project charter elements as well as planning tools and project documentation--you will obtain the skills and knowledge required to manage your project charter and plan. Six Sigma is a registered Trademark of Motorola Corporation, and all rights, title and interest in Six Sigma belongs to Motorola.

### Target Audience

Candidates for Black Belt certification; managers/executives overseeing personnel involved in the implementation of Six Sigma in their organization; consultants involved in implementing a Six Sigma proposal; and organizations implementing a Six Sigma project

### Expected Duration

2.0

### Lesson Objectives:

#### Six Sigma Project Charter Elements

- identify the benefits of a Six Sigma project charter.
- match elements of a Six Sigma project charter with examples.
- determine which of the SMART criteria are being met by project goals.

#### Planning Tools and Project Documentation

- identify the benefits of understanding project planning tools and project documentation.
- match types of planning charts used to plan Six Sigma projects with examples.
- match each project management process with a corresponding example.
- identify project management challenges.
- identify descriptions of the rules to be followed in using accurate data to drive Six Sigma excellence.

Course Number: OPER0172