



# Six Sigma Black & Green Belt

## Six Sigma Training in Conjunction with Project Execution



Companies around the world have implemented Six Sigma and programs to:

- Improve Customer Satisfaction
- Maximize Process Efficiencies
- Increase Competitive Advantage
- Maximize Market Share
- Save Millions in Operating Expenses

### Program Description

This 2-4 month training program is designed to teach aspiring Black and/or Green Belts the DMAIC methodology and the most common tools used in each phase as part of completing an actual Six Sigma project chosen by the student's Champion. This real-world training approach combines coaching and hands-on experience to maximize the effectiveness of training, while producing tangible savings in the process.

### Program Purpose and Format

This program is designed to help develop a cultural climate conducive to change and an initial team of Six Sigma leaders with experience applying the DMAIC tools. This program's vision is to produce success stories with measurable savings that lead to continued executive sponsorship of the internal Six Sigma effort. Program structure provides for 1 week of on-site training and 3 weeks of project activity each month. Off-site coaching is provided during the project activity weeks.

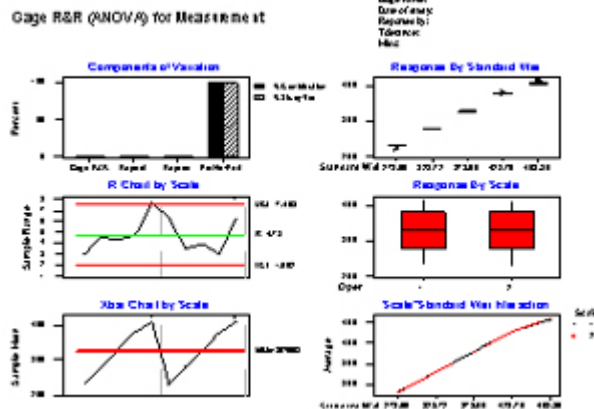
### Workshop Prerequisites

As a pre-requisite, the following activities must be completed:

- Executives: Complete the Six Sigma Overview
- Executives: Select Six Sigma Champions
- Executives: Approve program initiation budgets (training \$ and resource time)
- Champions: Complete Six Sigma Champion training
- Champions: Define project opportunities pipeline
- Champions: Identify Green and/or Black Belt candidates
- Black/Green Belt Candidates: Complete Intermediate SPC Training or equivalent
- Black/Green Belt Candidates: Quantitative analysis software such as NWA QA, Minitab, or equivalent.

### Objectives

- Identify and develop internal Six Sigma leaders.
- Commence and complete chosen Six Sigma projects.
- Explore the 5 phases of the Six Sigma process.
- Teach the use of appropriate tools in each of the phases.
- Coach the Black/Green Belts to successful process improvement.



### Program Curriculum

#### Week 1: Define and Measure Phases

Purpose: Establish current versus should-be process performance. Define project scope and progress metrics (ROI baseline, goal, and entitlement), complete process mapping, perform C&E matrix, failure mode, and root cause analysis, evaluate measurement system variation (MSA), establish control limits, and determine process capability.

#### Week 2: Analyze Phase

Purpose: Identify where improvement efforts should focus. Perform quantitative analysis, hypothesis testing, analysis of variance, examine sampling protocols, conduct correlation, regression, and multi-vari analysis.

#### Week 3: Improve Phase

Purpose: Optimize process performance by determining which process changes provide optimal improvement. Complete design of experiments (DoE) – screening, factorial, continuous, and discrete.

#### Week 4: Control Phase

Purpose: lock-in improvements and implement on-going performance measurement systems. Perform multiple regression analysis, implement SPC systems, complete GR&R studies, and develop control plans.

#### Project Conclusion

Prepare summary and results report and present to Champion and/or Six Sigma Steering Committee. Initiate pipeline evaluation process. As appropriate, coordinate Certification Testing activities.