# Six Sigma Green Belt Certification

## Description

Six Sigma is a disciplined, data-driven methodology for reducing variation in any process. The Six Sigma methodology-driven by the DMAIC (define, measure, analyze, improve, control) process-is executed by Six Sigma green belts, Six Sigma black belts, and overseen by Six Sigma master black belts. Green belt training participants receive a subset of the more advanced black belt training course, with an emphasis on developing a structured problem-solving strategy for addressing business improvement projects by using intermediate quality tools within the Six Sigma methodology.

## **Objectives and Topics**

- Introduction to Six Sigma history, applications, benefits, and the DMAIC methodology
- Define Phase
  - Define tools matrix diagrams, work breakdown structures, pareto diagrams, histograms, process mapping, value stream mapping, flow charts, trend charts, financial analysis, and the supplier-input-output-customer (SIPOC) technique.
  - Project selection tips
- Measure Phase
  - o Measuring approaches- house of quality, teams in action, process baseline definition, benchmarking
  - Tools for measuring- basic statistics, box whisker plots, cause and effect diagrams, check sheets, interrelation diagrams, process capability and performance indices, goodness-of-fit tests
    - Measurement system analysis- gage stability, linearity, repeatability & reproducibility analysis
- Analyze Phase

0

- Statistical analysis methods- analysis of variance (ANOVA), design of experiments (DOE)
- o Lean enterprise methods
- o Statistical analysis with statistical software
- Improve phase
  - o Cost of poor quality
  - Tools used to improve- pareto & prioritization matrix, failure mode and effect analysis (FMEA), process decision program charts (PDPC)
  - o Preventing failures
- Control phase
  - o Control tools- statistical process control (SPC) charts, process capability studies
  - o Maintaining improvements- measuring and realizing bottom line impact, applying knowledge elsewhere

## Simulations/Exercises/Application Techniques

In addition to lecture material, this course utilizes various forms of hands-on simulations, exercises, and case studies to demonstrate Six Sigma concepts. The course also utilizes and demonstrates the use of statistical software applications for statistical analysis.

### Certification

This course includes a Six Sigma green belt certification exam, to be administered on the last day of the training.

### Course Length: 40 hours

Class Size: Typically 10 -20 participants (different class sizes can be considered)

### Cost:

**\$25,000** to purchase an <u>entire class</u> for your company (Not including travel costs) **\$1,685** per person for <u>open enrollment</u>, which includes a \$85 per person materials/consumables fee.

Customized course content, delivery schedules and methods are available