

Six Sigma Black Belt Certification (inclusive of both Green & Black Belt coursework)

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. The black belt course has two distinct parts: the in-class portion and a project. The in-class portion consists of four full weeks of lectures, exercises and team-learning competitions. All of the statistical and quality tools needed to successfully complete a black belt project will be thoroughly presented so the student can return to his/her facility and readily apply them. (This course is inclusive of both Green Belt and Black Belt coursework).

Objectives/Topics

- **Week One**
 - The Organizational Value of Six Sigma
 - Introduction to Statistical Software
 - Calculate DPU, RTY and DPMO Sigma Levels
 - Project Planning
 - Process Mapping
 - Basic Probability Concepts
 - Analyzing Process Capability
 - Failure Mode and Effect Analysis (FMEA)
 - Statistical Process Control (SPC)
 - Gage Repeatability and Reproducibility (R&R)

- **Week Two**
 - Probability and Statistics
 - Properties and Applications of Prob. Dist.
 - Hypothesis Testing
 - Levels of Significance, Power, Type I & II Errors
 - Point and Interval Estimation
 - Correlation Analysis
 - Simple Linear and Multiple Regression

- **Week Three**
 - Design of Experiments (DOE)
 - Randomized Blocks
 - Full Factorial Experiments
 - 2-Level Fractional Factorial Experiments
 - Mixture Experiments
 - Response Surface Methodology
 - DOE Exercises and Competition

- **Week Four**
 - Apply Financial Benefits
 - Advanced SPC
 - Analysis of Control Charts
 - Implementation of Control Charts
 - Lean Enterprise/Lean Tools
 - Design for Six Sigma
 - Managing Change in the Organization

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 Minitab software applications for statistical analysis.

Certification

Six Sigma Black Belt Certification requires the successful completion of a project in a real-world environment. The project must be approved by the instructor, will be implemented over the course of the training, and should demonstrate the application of black belt-level Six Sigma tools.

Course Length

4 weeks (1 week per month spread out over 3-6 month timeframe)

Cost

Open Enrollment training: \$5500 per person + \$85 materials fee + one week \$100 consumables fee
(Total=\$ 5685)