



**Alabama
Technology
Network**

The University of Alabama in Huntsville



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Technology
Network**



Providing Solutions To Alabama's Existing Industry

Six Sigma Black Belt Certification For Qualified Green Belts**

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 **THREE** 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 Black Belt coursework only).

****Qualified Green Belts** – Attendee must have graduated from UAH-ATN Green Belt training OR must have Instructor permission. Contact Six Sigma Black Belt Instructor [Dr. Sampson Gholston](#)– before registering. 256.824.7310.

Objectives/Topics

- **Week One – For Qualified Green Belts**
 - 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 Two – For Qualified Green Belts**
 - Design of Experiments (DOE)
 - Randomized Blocks
 - Full Factorial Experiments
 - 2-Level Fractional Factorial Experiments
 - Mixture Experiments
 - Response Surface Methodology
 - DOE Exercises and Competition

- **Week Three – For Qualified Green Belts**
 - 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.

UAH-ATN · 301 Sparkman Drive · Huntsville, AL 35899 · 256 824-LEAN (5326) ·
www.atnlean.com

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

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

Class Size

5-20 Classes that do not meet the minimum attendee requirements may be cancelled or rescheduled.

Cost

Open Enrollment training: \$4000 per person + \$85 materials fee+ \$300 consumables fee (Total = \$4385)

Plus: Minitab Statistical Software is required. If you do not own this software, please visit www.minitab.com for purchasing options.

For more information about Six Sigma services, contact [Dr. Sampson Gholston](#) at 256.824.7310.