

## Six Sigma Black Belt

### Course Description

This course provides advanced studies in Six Sigma, Lean and Process Control initiatives. Black Belts are process experts and over time expected to become experts in the use of tools. Additional knowledge and experience at this level comes from training lower level belts as well as applying the tools and concepts.

### Course Objectives

By the end of this course, you should be able to:

1. Lead a team using advanced statistical techniques to solve a problem
2. Design and conduct a Design of Experiments
3. Understand the use of statistics with respect to preventive maintenance
4. Train lower level Belts to strengthen your own knowledge of these tools and concepts.
5. Be available as a resource to answer questions and assist with projects

### Reading Material

This course recommends *Statistics for Experiments by Box, Hunter and Hunter*. You will be learning from viewing videos, using software (trial-license provided) and reading from different websites and handouts.

### Course Outline

#### Section 1: White Belt

#### Section 2-6: Yellow Belt

#### Section 7-11: Green Belt

#### Section 12: Introduction – Black Belt

BB1 – Black Belt Program

#### Section 13: Six Sigma – BB

BB2 – Interpersonal Skills

BB3 – Project Management

#### Section 14: Process Control – BB

BB4 – Intro. to Design of Experiments

BB5 – Full Factorial DOE

BB6 – Fractional Factorial DOE

BB7 – Center Points and Blocking

BB8 – EVOP

BB9 – DOE Planning

BB10 – Advanced Capability

BB11 – Multiple Regression

BB12 – Statistical Control Methods

BB13 – Autocorrelation

BB14 – Advanced Designs

BB15 – Attribute Response DOE

BB16 – Sequential Experiments

BB17 – Response Surface Methods

#### Section 15: Lean – BB

BB18 – Focused Area Improvement

BB19 – TPM

BB20 – Affinity Diagrams

#### Section 16: Black Belt Certification

Black Belt Certifications are awarded to individuals who pass (70% minimum) both the class work and Final Exam and successfully complete a minimum of one advanced project (pass/fail). Class work is required to be submitted prior to submission of the Final Exam. Class work, exam and projects are graded within a week of submission to: [HerbRobbins@Lean2020.com](mailto:HerbRobbins@Lean2020.com)