

# Six Sigma Black Belt Training (4 weeks)



Course Duration: 20 Days - 8 Hours/day

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## Seminar Content

These four-week training sessions provide core training modules, practices and methodologies for Black Belt candidates. Trainees learn how key tools are utilized to form repeatable processes for solving critical problems; the learning cycle consists of four five-day training sessions over a four month period.

## Learning Objectives

- Complete Six Sigma project with savings of \$100,000-\$150,000
- Use, teach, disseminate Six Sigma tools and methods to Green Belts and team members.

## Seminar Outline

### Week 1

- Introduction
- Customer Focus
- Six Sigma Background
- Roles and Responsibilities
- Project Selection and Charter
- Facilitation Fundamentals and Skills
- Interventions
- Change Management
- Essential Facilitation Tools
- Process Mapping (for Define Phase)
- Define Tollgate
- Measure Phase
- Measurement System Analysis – Variance
- Measurement System Analysis – Attributes
- Process Mapping (for Measure Phase)
- Data Collection

- Graphical Methods
- Basic Statistics
- Capability Analysis
- Project Deliverables
- Project Measure Tollgates
- Certification Requirements

### Week 2

- Project Reviews
- Failure Mode & Effects Analysis (FMEA)
- Multi-Var Analysis
- Central Limit Theorem
- Confidence Intervals
- Hypothesis Testing
- ANOVA
- Correlation/Regression
- General Linear Models
- Six Sigma Deployment
- Black Belt Project Planning Reviews

### Week 3

- One Way ANOVA
- DOE Planning
- Randomized Blocks
- Project Reviews
- DOE Overview
- Project Reviews
- Full Factorial Experiments
- 2k Factorial Experiments
- Fractional Factorial Experiments
- DOE Review and Advanced Info

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## Week 3

- ❖ Project Planning / Deliverables
- ❖ Certification Requirements
- ❖ Black Belt Project Planning Reviews

## Week 4

- ❖ Project Reviews
- ❖ SemiVariable-Control
- ❖ Statistical Process Control
- ❖ IATF 16949 / ISO 9001 and Six Sigma Synergy
- ❖ Kaizen and Lean Production
- ❖ Mistake Proofing
- ❖ Preventative Maintenance
- ❖ Statistical Problem Solving
- ❖ Non-Normal Data Analysis
- ❖ Statistical Tolerancing
- ❖ Six Sigma Design
- ❖ Final Report Review
- ❖ Certification Requirements
- ❖ Black Belt Project Planning Reviews

## Seminar Materials

Each participant will receive a workshop manual.

## Pre-Requisite

Statistical training is recommended but not required.

A current, working version of Minitab is required for all attendees of this training course.

## Who Should Attend

Candidates are usually drawn from the managerial or technical specialist level, with the expectation of being assigned responsibility to implement Six Sigma in a business unit.

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