



Automotive Industry Development Centre Eastern Cape SOC Ltd
Your partner in becoming globally competitive

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COURSE OVERVIEW

The certified Six Sigma Green Belt is a professional versed in the core to advanced elements of Six Sigma Methodology, who leads improvement projects and/or serve as a team member in a more complex improvement project by a certified Black Belt, typically in a part-time role. A Six Sigma Green belt possesses a thorough understanding of the elementary aspects of the Six Sigma Method including competence in matters contained within the phases of Define, Measure, Analyse, Improve and Control. A Six Sigma Green Belt understands how to implement, perform, interpret and apply Six Sigma at a high proficiency levels.

Certification: Six Sigma Green Belt

The Six Sigma Green Belt exam is a 3 hour multiple choice exams. It is an open book exam written at the end of the theory classroom training. The candidate is also expected to complete an improvement project showing practical applications of the tools learn in the Six Sigma Greenbelt training.

Course Content: Six Sigma Green Belt

1.0 Define Phase

- 1.1 The basics of Six Sigma
 - 1.1.1 Meanings of Six Sigma
 - 1.1.2 General History of Six Sigma and Continuous Improvement
 - 1.1.3 Deliverables of a Lean Six Sigma Project
 - 1.1.4 Basic Concepts of Six Sigma
 - 1.1.5 Voice of the Customer, Business

- 1.2 Selecting Six Sigma Projects
 - 1.2.1 Project Selection
 - 1.2.2 Roles and Responsibilities
 - 1.2.3 Team Work and Team Concepts
 - 1.2.4 Building a Business Case & Project Charter
 - 1.2.5 SIPOC Analysis
 - 1.2.6 Developing Project Metrics



1.2.7 Financial Evaluation & Benefits Capture

- 1.3 The Lean Enterprise
 - 1.3.1 Understanding Lean
 - 1.3.2 The History of Lean
 - 1.3.3 Lean & Six Sigma
 - 1.3.4 The Seven Elements of Waste
 - 1.3.5 5S

2.0 Measure Phase

- 2.1 Six Sigma Statistics
 - 2.1.1 Basic Statistics
 - 2.1.2 Descriptive Statistics
 - 2.1.3 Normal Distributions & Normality
 - 2.1.4 Graphical Analysis

- 2.2 Measurement System Analysis
 - 2.2.1 Precision & Accuracy
 - 2.2.2 Bias, Linearity & Stability
 - 2.2.3 Gage Repeatability & Reproducibility
 - 2.2.4 Variability & Attribute MSA

- 2.3 Process Capability
 - 2.3.1 Capability Analysis
 - 2.3.2 Concept of Stability
 - 2.3.3 Attribute & Discrete Capability
 - 2.3.4 Monitoring Techniques

3.0 Analyse Phase

- 3.1 Cause and Effect Diagrams
 - 3.1.1 Fishbone Diagram
 - 3.1.2 Cause and Effect Matrix

- 3.2 Graphical Analysis of Data
 - 3.2.1 Boxplot
 - 3.2.2 Scatter Diagram
 - 3.2.3 Run Chart
 - 3.2.4 Pareto Chart

- 3.3 Correlation and Linear Regression
 - 3.3.1 Perfect and Imperfect Relationship
 - 3.3.2 Coefficient of Linear Correlation



4.0 Improve Phase

- 4.1 Benchmarking
 - 4.1.1 Benefits of Benchmarking
 - 4.1.2 Benchmarking Identification
 - 4.1.3 Implementation
 - 4.1.4 How to Benchmark

- 4.2 Design of Experiment
 - 4.2.1 Executing Efficient Experiments
 - 4.2.2 Full Factorial Designs

5.0 Control Phase

- 5.1 Process Standardisation
 - 5.1.1 Writing Procedures
 - 5.1.2 Rules to follow when writing a procedure

- 5.2 Control Plan
 - 5.2.1 Developing a Control Plan

- 5.3 Poka Yoke
 - 5.3.1 Types of Poka Yoke

- 5.4 Statistical Process Control (SPC)
 - 5.4.1 Purpose and Benefits
 - 5.4.2 Process Control
 - 5.4.3 Causes of Variation
 - 5.4.4 Control Charts Data Collection for SPC

- 5.5 Change Management
 - 5.5.1 Change Agents
 - 5.5.2 Conditions to Facilitate Change
 - 5.5.3 Understanding How Change Occurs

- 5.6 Identify and Document the Benefits and Cost of the Project

- 5.7 Input Project into Six Sigma Database



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5.8 EXAMS