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Course Content for Lean Six Sigma Black Belt

♣ Introduction

- A brief history of Quality
- What is Quality (Definitions) and service or product
- Quality Gurus & their contribution to Quality
- Enterprisewide View
- Leadership
- Six Sigma Roles and Responsibilities
- Team Formation
- Team Facilitation
- Team Dynamics
- Time Management For Teams
- Team Decision making Tools
- Management and Planning Tools
- Team Performance Evaluation and Rewards
- Overview of DMAIC

♣ Define

- Important Stakeholders
- Impact on Stakeholders
- Critical To X Requirements
- Benchmarking
- Business performance measures
- Financial measures
- VOC Kano's Customer Satisfaction Levels
- Juran's customer needs
- Market research
- CTQ Flowdown
- QFD
- Performance Metrics
- Project Charter
- Charter Negotiation
- Project management plan and Baselines
- Project Tracking

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- **Measure**

1. Processes, Process characteristics, process flow metrics, inputs and outputs
2. Process maps and Flow chart
3. SIPOC
4. Data Type & Measurement scale
5. Data Collection
6. Sampling strategies
6. Fishbone Diagram
7. Relational Matrices or Prioritization Matrix
8. Basic Statistics
9. Analytical Statistics
10. Gauge R & R
11. Process Capability Analysis

- **Analyze**

1. Correlation and Regression Analysis
2. Testing of Hypothesis
3. FMEA
4. Gap Analysis
5. The Five Whys
6. Pareto Diagram
7. Tree Diagram
8. Non-value added activities
9. Cost of Poor Quality (COPQ)

- **Improve**

1. DOE
2. Poka-yoke
3. 5S
4. Kanban
5. Standard Operations
6. Operator work instructions
6. Cycle time reduction and Takt time
7. Continuous Flow Manufacturing
8. SMED
9. Kaizen and Kaizen Blitz
10. Theory of Constraints (TOC)
11. Risk Analysis

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1 Control

Statistical Process Control

Other Control Tools

Maintain Controls

Sustaining Improvements

2 DFSS

a. DFSS

3 More on Lean.

a. A Value Stream Map

b. Lean is Speed

c. Total Supply Chain

d. Lean Six Sigma Logistics

4 Case Study 1.

Case Study 1 Part 1

Case Study 1 Part 2

5 Case Study 2.

Case Study 2 Part 1

Case Study 2 Part 2