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

- **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**
7. **Fishbone Diagram**
8. **Relational Matrices or Prioritization Matrix**
9. **Basic Statistics**
10. **Analytical Statistics**
11. **Gauge R & R**
12. **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**
7. **Cycle time reduction and Takt time**
8. **Continuous Flow Manufacturing**
9. **SMED**
10. **Kaizen and Kaizen Blitz**
11. **Theory of Constraints (TOC)**
12. **Risk analysis**

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