

# Continuous Improvement – Lean Six Sigma Green Belt Fall 2018 Course Details

- Instructor:** Vern Campbell, P.Eng, MBA
- Location:** Venue to be determined
- Length:** 6.5 Days (Please see attached syllabus)
- ½ Day Project Set-up and kick off session for Champions and participants.
  - 6 Days Just in time (JIT) training workshops for participants.
- Dates:**
- September 26, 2018 - 8:30-12:00 (Champions and participants) (1/2 day)
  - October 10, 2018 - 8:30-4:30 (participants) (1 Day)
  - October 23, 2018 - 8:30-4:30 (participants) (1 Day)
  - November 6 & 7, 2018 - 8:30-4:30 (participants) (2 Days)
  - November 28, 2018 - 8:30-4:30 (participants) (1 Day)
  - December 12, 2018 - 8:30-4:30 (participants) (1 Day)
- Prerequisites:** None – although Yellow Belt certification is recommended.
- Projects:** Green Belt Level Projects are required (Sample Criteria attached). The course structure is “learn by doing” with the application of methods and tools to “real” problems.
- Software:** Minitab Statistical software is required for project data analysis.
- Cost:** \$5,250.00 per person (includes “hands on” coaching through to certification). For 2 or more participants from the same organization, the cost will be \$4,750.00 per person.
- Class Size:** Limited to 16 participants.
- Content:**
- Principles of LSS/Continuous improvement.
  - Set up and Charter improvement projects.
  - The method to understand the current process situation including performance metrics and setting target conditions.
  - Identifying process problems and various strategies for addressing problems.
  - The 7 Step scientific problem solving method.
  - Applying the 7 Quality control tools and advanced analytical tools to solve problems using data and facts.
  - Introduction to Facilitation skills and teams.
- Registration Information:** Email – [vern.campbell@verncampbell.com](mailto:vern.campbell@verncampbell.com)
- Certification Requirements:**
- Attend all training;
  - Complete Green Belt Level Assessment;
  - Complete Green Belt level Project

## COURSE LEADER



**Vern Campbell, BScME, MBA, P.Eng**  
**Lean Six Sigma Master Black Belt**  
Principal

Vern Campbell is the Principal of Process Management by VFC whose extensive operational and consulting experience includes strategy development & deployment, Key Performance Indicator (KPI) development and deployment, leadership training and development, process improvement project selection and prioritization, and operational improvement through the application of advanced Lean Six Sigma methodologies including Process FMEA. Vern's consultancy practice focuses on maximizing an organization's operational effectiveness, efficiency, employee fulfillment and results. Vern's opportunities to learn from global experts in strategic planning and organizational improvement have led to his broad level of knowledge and experience consulting to manufacturers, service industries, agri-food and processing, environmental services groups, non-profit groups and health care organizations throughout Canada and the United States.

Vern spent ten years at Manitoba Hydro (1989-1999), first in financial planning and then leading their Strategic Planning and Quality Improvement Initiative. In 2000, Vern moved to Northern Blower, a 200 employee custom fan manufacturer serving the North American industrial market, initially as a consultant (2000-2002) and then as General Manager (2002-2011). At Northern Blower he put his consultancy principles into practice with dramatic results. Northern Blower was one of a small, select group of organizations in Canada that worked with Toyota to learn and implement the Toyota Production System. Toyota's "lean" management system is highly successful in eliminating waste through developing people and sustainable systems to provide consumers with what they need, when they need it, affordably.

Vern has over 20 years of experience in the field of strategy development, strategy deployment, KPI systems development and deployment, and organizational process improvement. He has consulted with various industries and sectors: agriculture, food processing, healthcare, non-profit, manufacturing, human resources/payroll, electric utilities, packaging, education, regulatory bodies, to name but a few. The breadth and scope of the engagements has varied, but include Strategy Planning and deployment, cultural transformations, KPI systems, Executive training and coaching, leadership and supervisor development and coaching, strategic project selection and execution, Lean Six Sigma training and coaching, basic data analysis, interpretation and problem solving. The objective of any consulting engagement is to transfer the knowledge and skills to the client organization so that they may strive for and realize self-sufficiency and sustainable results.

Vern is a Professional Engineer (APEGM), earning his Bachelor of Science Degree in Mechanical Engineering, with Distinction, from the University of Manitoba. He was awarded the Gold Medal from the Canadian Society for Mechanical Engineering, and went on to attain his Master Degree in Business Administration from the University of Western Ontario. Vern is an Associate Professor and Engineer in Residence with the Faculty of Engineering at the University of Manitoba teaching a 4<sup>th</sup> year and graduate level course in Operational Excellence. Vern also teaches Sustainable Lean Management with the MBA Faculty in the Asper School of Business at the University of Manitoba. Vern guest lectures at the University of Miami's School of Business Administration and the Stern School of Business at New York University, New York. He is currently enrolled in the post-Masters program at the University of Miami. Vern also has his Master Black Belt status in Lean Six Sigma with the University of Miami.

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## Continuous Improvement / LSS – Fall 2018

### **Green Belt Registration Form**

Organization: \_\_\_\_\_

Contact Person: \_\_\_\_\_

Contact Phone Number: \_\_\_\_\_

Contact E-Mail Address: \_\_\_\_\_

Primary Contact Address: \_\_\_\_\_

Participants (Name, Position, E-Mail Address):

	<b>Name</b>	<b>Position</b>	<b>E-Mail Address</b>
1	_____	_____	_____
2	_____	_____	_____
3	_____	_____	_____
4	_____	_____	_____

Email to:

[vern.campbell@verncampbell.com](mailto:vern.campbell@verncampbell.com)

**Project Note: Green Belt Training does qualify under the Manitoba Job Grant program.**

# **CI/Lean Six Sigma Green Belt Course Syllabus Fall 2018**

## **LSS Green Belt Objectives:**

- To develop Green Belt level competency in the Lean Six Sigma problem solving method.
- To prepare Green Belt candidates to support teams and individuals in the use of the tools and methods of continuous process improvement, including advanced LSS methods, tools and analytics.
- To successfully complete a Green Belt level project with a strategic impact.

## **Green Belt Certification Requirements:**

- Candidates will:
  - Attend all training sessions.
  - Successfully complete the Green Belt level assessment (closed and open book).
  - Solve an organizational problem utilizing the LSS problem solving methodology and Green Belt level analytical tools.

## **Green Belt Pre-Requisite:**

- No pre-requisites are required, however Yellow Belt certification would be an asset.

## **Target Employee Group:**

- Potentially All Employees

## **Material Requirements:**

- Green Belt Manual (Electronic copy provided)
- “Six Sigma for Green Belts and Champions” Gitlow
- Minitab Statistical Software
- Recommended reference books, but Optional:
  - “The Toyota Way Fieldbook” by Liker
  - “The Team Handbook” by Joiner
  - “The Leader’s Handbook” by Scholtes
  - “The New Economics” by Deming

## **Course Structure:**

- The course will consist of 6.5 workshop days. The sessions will be conducted on a Just-in-time (JIT) basis to allow time for material review and to apply the method and tools learned in the workshop sessions to the candidate’s selected problem.
- The course sessions will be structured to include prep work, in workshop session work and post session study and application.

## **Green Belt Course Initiation Meeting**

**Objective:**

- To provide an overview and understanding for LSS Green Belt development.
- To set the foundation for Green Belt Team success.

**Session Preparation Work:**

- Identify potential Green Belt projects. Some suggested criteria are attached.
- Review the Green Belt Manual Sections: Introduction and Section I – Define the Initiative.
- Recommended reading:
  - Review “The New Economics” by Deming.
  - Review Section I of “Six Sigma for Green Belts and Champions” by Gitlow.
  - Review Chapters 1-3 of “The Team Handbook” by Joiner.

**Agenda:**

1. Overview of LSS Green Belt Course.
2. Introduction to LSS Green Belt Methods and concepts.
3. Project Selection, Chartering and team start-up.
  - a. Draft Charter
  - b. Project Risk Assessment
  - c. Team Start-up and fundamentals.
    - i. Key Roles and Responsibilities.
    - ii. Lessons from Previous Team experiences.
4. Next Steps

**Post Session:**

- Draft Project Charter.
- Draft Team Ground Rules.
- Review materials covered and notes.

## **Session I (2 Day) (Green Belt Day 1 & 2)**

### **Objective:**

- **To set the project foundation for success.**
- **To completely understand the current process under review.**

### **Session Preparation Work:**

- **Finalize Project Charter.**
- **Finalize Team Ground Rules.**
- **Review Manual to the end of “Improve”.**
- **Read Chapters 1 – 4 of Six Sigma for Green Belts and Champions by Gitlow.**
- **Recommended Read Chapter 1-3 of the “Team Handbook” by Joiner.**

### **Agenda:**

- 1. Introduction/Overview of the Green Belt Course.**
- 2. An Introduction to Six Sigma.**
- 3. Define the Initiative.**
- 4. Strategic Issue Management.**
- 5. Understand/Characterize the Current Process (Steps 1 – 8).**
  - a. Completely understand the current situation and baseline performance.**
  - b. Define the future state target condition.**
  - c. Identify the process problems and obstacles.**
  - d. Prioritize the process problems.**
- 6. An overview of strategies and methods for addressing problems:**
  - a. “Just do it”**
  - b. Quick Kaizen**
  - c. Standardization**
  - d. Improvement – 7 Step Root Cause Problem Solving Method.**
- 7. Next Steps.**

### **Post Session:**

- **Finalize Project Charter (Champion Sign-off).**
- **Finalize Team Roster and Ground Rules.**
- **Prepare a short presentation (elevator speech, risk plan, etc.).**
- **Review Manual to the end of Examine the Current Situation (including Facilitation).**
- **Read Six Sigma for Green Belts and Champions by Gitlow to the end of Chapter 6, Chapters 9 – 12, and Chapter 14.**
- **Complete 4 “Quick Kaizens”.**

## **Session II (2 Day) (Green Belt Day 3 & 4)**

### **Day 1 Objective:**

- **To develop an improvement project portfolio.**
- **To clearly define the problem, baseline performance and the improvement objective (using data) (Y).**
- **To determine and define the focal point(s) (X). (Strategy and Strategy Measure).**

### **Session Preparation Work:**

- **Finalize Project Charter (Champion Sign-off) and Finalize Team Ground Rules.**
- **Prepare a short presentation (elevator speech, risk plan, etc.).**
- **Review Manual to the end Examine the Current Situation (including Facilitation).**
- **Read Six Sigma for Green Belts and Champions by Gitlow to the end of Chapter 6, Chapters 9 – 12, and Chapter 14.**
- **Recommended Read “The Toyota Way Fieldbook” by Liker, Chapters 9-18 inclusive.**

### **Agenda Session II Day 1:**

- 1. Introduction/Overview of Day/Key Concept Review.**
- 2. Team Presentations.**
- 3. Improve? Including the Project Portfolio.**
- 4. Introduction to Cause/Effect Matrix and Failure Mode Effects Analysis.**
- 5. Establish the Focus/Intro to Statistical Concepts.**
  - a. Identify the Performance Gap using data & facts.**
  - b. Verify the Performance with Data.**
  - c. Control Charts.**
  - d. Develop the Project Objective & Improvement Plan.**
- 6. Examine the Current Situation.**
  - a. Advanced analytics to determine patterns, key variables & focal points.**
  - b. Develop Improvement Strategies and Strategy Measures.**
- 7. Next Steps**

## **Session II (Day 2)**

### **Objective:**

- **To develop Green Belt facilitation competency**
- **To develop an understanding of “team” basics.**

### **Session Preparation Work:**

- **Review the Manual Section on Facilitation.**
- **Review all material covered to date.**
- **Recommended to read “The Team Handbook” by Joiner, Chapters 4, 5, 6 & 7 plus appendices.**

### **Session II Day 2 Agenda:**

- 1. Introduction/Overview of Day/Key Concept Review.**
- 2. Team Presentations.**
- 3. An Introduction to Facilitation.**
  - a. Active Listening**
- 4. The Three Essentials of Facilitation.**
  - a. Forging Trust**
  - b. Sustaining Progress**
  - c. Intervening Effectively**
- 5. An Introduction to Personality Types (MBTI).**
- 6. The Stages of Team Development.**
- 7. Next Steps**

### **Post Session:**

- **Review all material covered to date.**
- **Read Manual Sections – Analyze the Causes, Act on the Causes and Appendix IV (Management and Planning Tools).**
- **Read Six Sigma for Green Belts and Champions by Gitlow Chapters 6, 7 & 15.**
- **Work on Project and prepare a short (<10 min.) presentation.**
  - **Elevator Speech**
  - **Complete Define, Characterize, Improve?, Establish the Focus and Examine the Current Situation.**
- **Complete 4 “Quick Kaizens”.**



## **Session III (1 Day) (Green Belt Day 5)**

### **Objective:**

- **To build Green Belt competency to identify and develop a Root Cause theory.**
- **To build Green Belt competency to develop Action Plans to test the theory and to study the test results.**

### **Session Preparation Work:**

- **Review all material covered to date.**
- **Read Manual Sections - Analyze the Causes, Act on the Causes, Study the Results and Appendix IV (Management and Planning Tools).**
- **Read Gitlow Chapters 6, 7 & 15.**
- **Recommended read "The Toyota Way Fieldbook" by Liker Chapters 19 & 20.**
- **Work on Project and prepare a short (<10 min.) presentation.**
  - **Elevator Speech**
  - **Complete Define, Characterize, Improve?, Establish the Focus and Examine the Current Situation.**

### **Agenda:**

- 1. Introduction/Overview of Day/Key Concept Review.**
- 2. Team Presentations.**
- 3. Analyze the Causes.**
  - a. Brainstorm and Prioritize Root Causes**
  - b. Use facts/data to verify the causes**
  - c. Select root causes to address**
- 4. Act on the Causes.**
  - a. Develop an action plan to test the improvement theory.**
- 5. Study/Check the Results**
- 6. Introduction to the Seven Management and Planning Tools.**
- 7. Next Steps**

### **Post Session:**

- **Review all material covered to date.**
- **Read Manual Sections - Standardize the Changes, Draw Conclusions.**
- **Read Six Sigma for Green Belts and Champions by Gitlow Chapter 8.**
- **Work on Project and prepare a short (<10 min.) presentation.**
  - **Elevator Speech**
  - **Completed Define, Characterize, Improve?, Establish the Focus, Examine the Current Situation, Analyze the Causes and Act on the Causes.**

## **Session IV (1 Day) (Green Belt Day 6)**

### **Objective:**

- **To build Green Belt competency to develop and implement Standardization and Control Plans.**
- **To reflect upon and develop plans to communicate the Green Belt Project experience.**

### **Session Preparation Work:**

- **Review all material covered to date.**
- **Read Manual Sections – Study the Results, Standardize the Changes and Draw Conclusions**
- **Read Six Sigma for Green Belts and Champions by Gitlow Chapter 8.**
- **Work on Project and prepare a short (<10 min.) presentation.**
  - **Elevator Speech**
  - **Key Outputs of each Step**
    - **Completed Define, Characterize, Improve?, Establish the Focus, Examine the Current Situation, Analyze the Causes and Act on the Causes.**

### **Agenda:**

- 1. Introduction/Overview of Day/Key Concept Review.**
- 2. Team Presentations.**
- 3. Standardize the Changes, Develop a Control Plan.**
- 4. Draw Conclusions; communicate the results.**
- 5. Review**
- 6. Green Belt Assessment**
- 7. Next Steps**
  - a. Project Completion Review/Certification.**

### **Post Session:**

- **Review all material covered to date.**
- **Complete Green Belt Project.**
- **Prepare the Project Presentation.**

### **Green Belt Certification**

- **Assessment**
- **Project Review**
- **Certification Celebration**
- **Communicate Project Results**

## **Green Project Sample Selection Criteria**

1. “Winnable” but challenging.
2. A “real” problem where the solution is not known.
3. “Doable” in 120 days.
4. Strategic/painful – important enough that we will focus.
  1. \$150,000 or equivalent strategic impact is a useful guideline.
5. Cycles frequently – collecting good data is usually an issue with initial projects.
6. Engaged/committed stakeholders.
7. A committed project Champion/sponsor.