



QNET presents:

Lean Six Sigma Yellow Belt Certification: An Introduction to Problem Solving

Fall 2016 – Location: QNET – Suite 660, 175 Hargrave Street, Winnipeg

Structured and methodical problem solving based on the scientific method (PDSA cycle) provides a critical foundation for continuous improvement or lean initiatives. Yellow Belt equips all levels of the organization with foundational problem solving competencies. A competent Yellow Belt will support Green Belts in working through complex organizational problems and will also work individually solving process problems. Yellow Belt competency is critical in building the foundation for a continuous improvement culture.

The Yellow Belt course is conducted in a Just-in-Time (JIT) format, with time in between each course day to allow for material review and project work. The course is structured to include preparation work, in-class work and post-class study and project application.

Course Training Days (3.5):

- Optional Information Session – Wednesday, September 28 – 8:00 a.m. to 10:30 a.m.
- Monday, October 31 – 8:15 a.m. to 12:00 noon (champions & participants)
- Wednesday, November 9 – 8:15 a.m. to 4:30 p.m. (participants only)
- Friday, December 2 – 8:15 a.m. to 4:30 p.m. (participants only)
- Monday, December 12 – 8:15 a.m. to 4:30 p.m. (participants only)

Course Objectives:

- To familiarize the participants with the fundamental concepts of Lean and Six Sigma.
- To learn the problem solving methodology core to Six Sigma and Lean implementations.
- To learn basic statistical concepts and the basic 7 Quality Control tools.
- To get “real” results by completing a Yellow Belt Level Project (sample project selection criteria is in the following pages). The nature of the course is “learning by doing” with the application of methods and tools to “real” problems.

Course Content:

- Basic principles of LSS/Continuous improvement.
- Set up and Charter improvement projects.
- The method to understand the current process situation, including performance metrics.
- Setting process target conditions.
- Identifying process problems and various strategies for addressing problems.
- The 7 Step Problem Solving Method.
- Applying the 7 Basic Quality Control Tools to solve problems using data and facts.

Objectives of Yellow Belt Certification:

- To develop functioning Yellow Belts capable of systematically solving problems;
- To demonstrate a return on the Yellow Belt investment for the participating organizations;
- To provide an economical approach to developing an organization’s problem solving competency & culture.

Who should attend?

Front line personnel that will be working on project teams or individually to solve problems. Champions / Sponsors who guide Six Sigma / Lean problem solving teams. Individuals with long term plans to develop Black Belt capability; Yellow Belt is a great, low risk first step. Each participant must have a workplace project and Sponsor/Champion.

REGISTER ONLINE at www.qnet.ca



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Course Leader: Vern Campbell, BScME, MBA, P.Eng

Vern Campbell, Principal of VF Campbell & Associates, has extensive operational and consulting experience that includes strategy development & deployment, Key Performance Indicator (KPI) development and deployment, leadership and Executive 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, first in financial planning and then leading their Strategic Planning and Quality Improvement Initiative. He then moved to Northern Blower, a custom fan manufacturer serving the North American industrial market, initially as a consultant and then as General Manager. 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 - a "lean" management system highly successful in eliminating waste through developing people and sustainable systems to provide consumers with what they need, when they need it, affordably.

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 4th 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. A Lean Six Sigma Black Belt, Vern is working to attain his Master Black Belt status in Lean Six Sigma with the University of Miami.

Course Fee

- \$1,125.00 + GST for Members of QNET or APICS
- \$1,375.00 + GST for Non-Members

Course Credits / Presented by

- An optional course valued as 11 hours in the 70 credit hour QNET Certificate in Management Development (CMD)
- Eligible for credit in the CAM:OE (Certificate in Applied Management: Organizational Effectiveness) in partnership with the University of Manitoba, Continuing Education
- Presented by QNET in partnership with APICS Winnipeg Chapter and Industry Services, Jobs and the Economy, Province of Manitoba.

Course Syllabus

Objectives

- To build a foundation of process improvement competency
- To develop a consistent structured problem solving ability
- To solve "real" organizational problems that deliver "real" improvement results

Yellow Belt Certification Requirements – Candidates will:

- Attend all training sessions
- Successfully complete the Yellow Belt level assessment
- Solve a simple organizational problem utilizing the Improvement Journal Method (Quality Journal) and the basic Seven Quality Control tools (7 QC Tools)

Material Requirements:

- Yellow Belt Manual (electronic version provided; participants may choose to print their own copy)
- "Qualities of an Exceptional Leader" paper by Lou Schultz (Provided)
- Quality Journal (QJ) (Electronic Version Provided)
- Recommended Reference Books (not provided):
 - "The Team Handbook" Joiner et al
 - "Learning From the Masters" Lou Schultz
 - "The Toyota Production System" Ohno
 - "Understanding Variation" Wheeler
 - "Memory Jogger" (GOAL/QPC)

Course Syllabus continued on next page...

Course Overview / Agenda:

Day 1 Morning:

- a. Preparation work:
 - i. Under the guidance of your supervisor/Champion, select a problem or issue to work on. The problem should be small in scope & have no known solution.
 - ii. Read "Qualities of an Exceptional Leader" by Lou Schultz.
 - iii. Recommended:
 1. Read "The Team Handbook" by Joiner
 2. Read "Learning from the Masters" by Lou Schultz.
 - iv. Read the Yellow Belt Manual Sections:
 1. Setting the Context
 2. Team Start-up
 3. Characterize the Process Steps 1-6
- b. Session 1 Agenda:
 - i. Introduction & Course Overview
 - ii. Setting the Context
 - iii. Team Start-up
 - iv. Characterize the Process Steps 1 to 5
 - v. Session Wrap-up & Evaluation

Day 1 Afternoon:

- a. Agenda:
 - i. Review Morning Key concepts
 - ii. Characterize the Process Steps 6, 7 to 8
 - iii. An Introduction to Statistical Concepts
 - iv. Improve?
 - v. Session Wrap-up & Evaluation
- b. Post Session Actions:
 - i. Review Yellow Belt Manual (to end of "Improve?" inclusive)
 - ii. For the Candidate Project complete:
 1. Characterize the Process Steps 1 to 8
 2. Develop a Project Portfolio
 3. Select a simple problem to work on.
 - iii. Review with Champion. Champion Sign-off.
 - iv. Prepare a short (<5 minute) QJ project update presentation.

Day 2 Morning:

- a. Preparation Work:
 - i. Review Yellow Belt Manual Material covered to date
 1. Setting the Context
 2. Team Start-up
 3. Characterize the Process Steps 1 to 8
 - ii. Read Yellow Belt Manual to the end of "Act on the Causes".
 - iii. Read "Understanding Variation" by Wheeler (Optional).
 - iv. Read Chapter 10, "Statistical Methods for Quality Improvement" Kume (Optional).
 - v. Prepare a short (<5 minute).
- b. Agenda:
 - i. Review Day 1 Key concepts
 - ii. Project Update Presentations
 - iii. Establish the Focus (QJ Step 1)
 1. Data Collection
 2. Run Charts
 3. Control Charts
 4. Histograms
 - iv. Examine the Current Situation (QJ Step 2)
 1. Pareto Diagram
 - v. Session Wrap-up

Day 2 Afternoon:

- a. Agenda:
 - i. Review Session 1, 2 & 3 Key Concepts.
 - ii. Project Update Presentations (Quality Journal) (< 5 minutes)
 - iii. Analyze the Causes (QJ Step 3)
 1. Cause/Effect Diagram
 2. Scatter Diagram
 - iv. Act on the Causes (QJ Step 4)
 - v. Day Wrap-up & Evaluation
- b. Post Session Actions:
 - i. Review Yellow Belt Manual to the end of Act on the Causes inclusive.
 - ii. For the Candidate Project revise/complete:
 1. Establish the Project Focus (QJ Step 1)
 2. Examine the Current Situation (QJ Step 2)
 3. Analyze the Causes (QJ Step 3)
 4. Act on the Causes (QJ Step 4)
 - iii. Review with Champion. Champion Sign-off.
 - iv. Prepare a short (<5 minute) QJ project update presentation.

Day 3 Morning:

- a. Preparation Work
 - i. Review Yellow Belt Manual Material covered to date:
 1. Setting the Context
 2. Team Start-up
 3. Characterize the Process
 4. Improve?
 5. Establish the Focus
 6. Examine the Current Situation
 7. Analyze the Causes
 8. Act on the Causes
 - ii. Read the Yellow Belt Manual to the end of Draw Conclusions inclusive.
 - iii. Prepare a short (<5 minute) QJ presentation.
- b. Agenda:
 - i. Review Day 1 & 2 Key Concepts.
 - ii. Project Update Presentations (Quality Journal Steps 1-4) (< 5 minutes).
 - iii. Study the Results (QJ Step 5)
 - iv. Standardize the Changes (QJ Step 6)
 - v. Draw Conclusions (QJ Step 7)
 - vi. Exam Review/Questions
 - vii. Course Wrap-up

Day 3 Afternoon:

- a. Review Continued
- b. Yellow Belt Assessment
- c. Post Session Actions:
 - i. Review Yellow Belt Manual
 - ii. For the Candidate Project revise/complete:
 1. Establish the Project Focus (QJ Step 1)
 2. Examine the Current Situation (QJ Step 2)
 3. Analyze the Causes (QJ Step 3)
 4. Act on the Causes (QJ Step 4)
 5. Study the Results (QJ Step 5)
 6. Standardize the Changes (QJ Step 6)
 7. Draw Conclusions (QJ Step 7)
 - iii. Review with Champion. Champion Sign-off.

Yellow Belt Certification

- a. Assessment
- b. Project Review
- c. Certification Celebration
- d. Communicate Project Results