

SYLLABUS

Lean Six Sigma Green Belt (2018)

INSTRUCTIONAL GOALS

Course overview: Class will present tools and concepts of Lean Six Sigma while stressing the development of team facilitation abilities. Class is 80% Lean and 20% Six Sigma divided into nine instructional blocks of three hours each. Instructor will lead a brief review each morning of the previous day's lessons.

At the end of this course, you will

- Increased your ability to solve problems, improve processes and facilitate teams
- Be able to guide teams through a structured problem solving methodology
- Be able to map, analyze and improve work process
- Be able to facilitate process improvement (Kaizen) teams
- Be able to communicate impact Lean Six Sigma has on organizational objectives

NEEDS AND RESOURCES

Prerequisites

None

Required reading

None

COURSE SCHEDULE

Block 1 - History, background and Six Sigma overview

- Lean biased curriculum overview and "belt" certification structure
- Quality and value in today's business environment
- Expectations of a Green Belt
- Organizational excellence awards and certifications
- Timeline of Lean Six Sigma development
- Six Sigma big picture
- DMAIC methodology for project execution
- $Y=f(x)$
- Kaizen event types with team roles and responsibilities

Block 2 - Facilitation workshop

- Team assignments and creating team norms
- Fundamentals of team facilitation
- $Q \times A = I$
- Core functions of the facilitator
- Common facilitator tools
- Individual excellence exercises
- Stages of team development

Block 3 - Lean

- Background
- Gemba and Kaizen
- Value adding and non-value adding steps
- TIM WOOD (U)
- Course simulation (round 1)
- 5 Principles of Lean
- PDCA & A3

Block 4 - Problem solving

- 8-Step Problem solving model
- Stakeholder analysis
- Problem statement development
- SIPOC & SMART
- Metrics
- SWOT

Block 5 - See the process

- Process walks
- Spaghetti diagram
- Current state value stream map
- Ideal state value stream map

Block 6 - Root cause analysis

- Fishbone diagram
- Gauge R & R
- Run chart
- 5 Whys analysis
- Pareto chart
- Failure mode and effects analysis

Block 7 - Foundational Lean tools

- 5S
- Standard work
- Visual management

Block 8 - Lean tools

- SMED (Quick changeover)
- Poka-Yoke (Error proofing)
- Heijunka (Leveling)
- Work cell design
- Future state value stream mapping
- Action planning

Block 9 – Project completion

- Simulation round #2 with team briefing
- Sustainment and replication
- Continuous improvement

Certification test

- Accredited Lean Six Sigma Black Belt certification test provided by the American Association for Lean Six Sigma Certification (AALSSC)
 - See aalssc.org for details
- Certification requires a minimum score of 75%
- 60 question, computer based, proctored, multiple choice, open book test
- Approved for GI Bill reimbursement

POLICIES AND PROCEDURES

General Rules:

Students are expected to conduct themselves in a professional manner and engage in classroom discussion.

INSTRUCTOR CONTACT INFORMATION

- Mr. Craig Johnson (LSSBB)
- Office: 801-382-8577
- craig@utahleansixsigma.com
- www.utahleansixsigma.com