

SYLLABUS

Lean Six Sigma Black Belt

INSTRUCTIONAL GOALS

Course overview: Class prepares students to be effective Lean Six Sigma Black Belts. Possess the skills necessary to lead change initiatives at the executive or strategic level of organizations.

At the end of this course, you will

- Have a complete understanding of quality methods and can lead quality initiatives
- Be able to facilitate executive level Kaizen/Process improvement events
- Have a complete understanding and process of organizational change management
- Have confidence consulting with organizational leaders and helping them achieve their goals/objectives
- Be skilled in a variety of strategic planning methods

NEEDS AND RESOURCES

Prerequisites

Be certified as a Lean, Six Sigma, or Lean Six Sigma Green Belt

- Can include, but not limited to, employer certification programs, online training, virtual courses, university courses, or other certification bodies

Required Reading

- “The Goal” by Eli Goldratt

Additional Recommend Reading

- “The Toyota Way” ~ Liker
- “Out of the Crisis” ~ Deming
- “Leading Change” ~ Kotter

COURSE SCHEDULE

Block 1 - Organizational structures and measures for Six Sigma

- Green belt review
- Role of a Lean Six Sigma Black Belt
- Project selection and decision matrix
- Financial measures
- Key performance indicators
- Cost / benefit analysis

Block 2 – Advanced facilitation strategies and organizational change management

- Visioning
- Force field analysis
- Troubleshooting
- Inter-personal problem solving
- Kotter’s 8 stages of change (homework)

Block 3 - Total quality management

- Red bead simulation and team exercise
- 14 Principles of TQM (homework)
- Statistical process control
- X-bar/R control chart development

Block 4 – Strategic planning

- Mission and vision statement development (homework)
- Game theory
- Traditional strategic planning model
- Hoshin Kanri planning process
- Balanced scorecard

Block 5 - Benchmarking and systems thinking

- Benchmarking (homework)
- Systems thinking
- 5 disciplines of a learning organization
- BoT graphs
- Mental models

Block 6 – Total productive maintenance and kanban

- 14 principles of the Toyota way
- Total productive maintenance / OEE
- Point of use storage and material replenishment
- Kanban systems / kanban boards

Block 7 – Quality tools

- Past quality leaders (homework)
- Data types and uses
- 7 quality tools
- Heat map
- Box and whisker

Block 8 – Quality function deployment and design for Six Sigma

- QFD and house of quality
- Design for Six Sigma / 3P
- Gap analysis
- Culture of quality

Block 9 – Theory of constraints and critical chain project management

- Book discussion – The Goal (homework)
- TOC and five focusing steps
- Evaporating clouds
- Project management fundamentals and precedence diagram
- Critical Chain Project Management (CCPM)

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%
- 80 question, computer based, proctored, multiple choice, open book test
- Approved for GI Bill reimbursement

POLICIES AND PROCEDURES

General Rules:

Students are expected to complete homework assignments, give in-class presentations, conduct themselves in a professional manner and engage in classroom discussion.

INSTRUCTOR CONTACT INFORMATION

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