

NZOQ Certified Lean Six-Sigma Green Belt

Course Code TGLS003P

Lean and Six Sigma deliver business goals and objectives through the rigorous application of proven improvement methodologies. Combining both these methodologies eliminates waste, increases value and reduces variation. By focusing on the customer and delivering benefits quickly it is possible to improve quality performance and profitability simultaneously.

Thornley Group Green Belt training is carried out by professional trainers who are experienced as senior management practitioners in both Six-Sigma and Lean. After 10 days of training, a written examination and satisfactory review of project material you will receive certification as a Lean Six-Sigma Green Belt. Course details are as follows:

Course Duration

- 10 days (2 x 5 days)

Entry Requirements

- Candidates must have a basic working knowledge of algebra and be used to working with numerical data (See separate maths qualifier test). A familiarity with Computer Spreadsheets is also required.
- Candidates must have the authority to work on a project in their organisation as this is a mandatory requirement for certification. This should be a cost saving, defect reduction or other customer impact project.

Equipment Needed by Candidates

- Scientific Calculator.
- A lap-top computer loaded with Minitab software will be beneficial during the second week of the course (but not essential).

Course Contents

Our Green Belt training gives an extensive grounding in Lean Six-Sigma which covers in detail: Lean tools and techniques and business benefits, project set-up, DMAIC and all the associated statistical tools and techniques. Thornley Group Green Belt training is targeted at people who spend a significant amount of time involved in process improvement. This could either be as a process owner or a member of a team working on an improvement project. Being 10 days in duration it offers a greater depth and can be upgraded to a Black Belt certificate with only a further 10 days of training.

Using their practical experience of improvement programmes, along with simulation exercises, our trainers can take candidates through the process of applying the tools and techniques that they learn.

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Summary Course Contents

- Introduction to Lean Six Sigma and the DMAIC Project Process
- Establishing Projects
- Forming Teams
- Developing Project Team Charters
- Basic Project Management
- Mapping the process
- Customer Requirements
- Base-lining
- Variation and the Normal Distribution
- Collecting Data
- MSA
- Graphical Analysis
- Process Capability
- DFMEA and PFMEA
- Identifying, organising and verifying Causes
- Hypothesis Testing
- Regression Analysis
- Introduction to Design of Experiments
- Creating Solutions
- Selecting and Promoting Solutions
- Piloting
- Implementing Solutions
- Using Lean Methods
- Identifying Value
- Identifying Waste
- Value Stream Mapping
- Cycle time Analysis
- The Seven Wastes
- 5S
- TPM
- Visual Management
- Single Piece Flow
- Kanban
- Process Mistake Proofing - Poka Yoke
- Control Charting
- Sustaining Improvements
- Verifying Improvements
- Sharing the Knowledge Gained

After Completion of Week 2, candidates will sit a written examination. After successful completion of a project that delivers significant cost savings, defect reduction or other customer impact, Green Belt certification will be awarded.

100% attendance at the course is required to gain certification.

There will be two Public Lean Six Sigma Green Belt courses run in 2011 on the following dates:

Course 1: 11th to 15th April and 16th to 20th May, Auckland

Course 2: 7th to 11th November and 5th to 9th December, Auckland

Location: Auckland CBD (Venues to be confirmed)

Cost: NZOQ Members \$6,250.00 + GST, Non-Members \$7,500.00 + GST

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Lean Six-Sigma Green Belt

Programme Structure

Introduction to Lean and Six Sigma

- Why waste and variation undermine organisational effectiveness
- The focus on customers as a means of maximising performance
- The cost of poor quality and the business case for Lean Six Sigma
- Selecting appropriate Lean Six Sigma Projects

Harnessing the power of teams

- Establishing a project team
- Developing the Project Team Charter
- Best practice methods for driving team performance

The Define Phase - Correctly defining business issues and problems

- Scoping and detailing the project objectives and relating to the 'Voice of the Customer'
- Lean Six Sigma project alignment to strategic objectives
- Using the Project Team Charter as a tool for scoping
- Building a picture of business processes through process mapping
- Preparing a project business case
- Building a communication and change management strategy

The Measure Phase - Managing by fact through measurement and data

- Identifying real customer and stakeholder insights and opinions
- Understanding the different data types and appropriate measurement methods
- Prioritising potential process issues using cause and effect and FMEA
- Building a data collection plan
- Understanding and improving measurement systems
- Using statistical concepts to collect and display business information
- Calculating the process sigma and other baseline process capability measures
- Identifying value and waste through value stream mapping
- Using Lean measures to identify opportunities
- The seven wastes and their impact on processes

The Analyse Phase - Identifying root-causes through analytical methods

- Focussing the problem through Pareto
- Detailed process mapping methods
- Identifying the vital few causes through data analysis
- The use of Hypothesis Testing to verify the effects of causes on the process
- Understanding how regression analysis provides evidence of correlation
- How Design of Experiments (DOE) can be considered in complex situations
- Using statistical software to do the hard work
- Value stream and cycle time analysis
- Conducting process flow analysis

The Improve Phase - Making Improvements and delivering the benefits

- Using data and creativity in a structured way to identify solutions
- Improving process setup and changeover times
- Promoting the solution and managing change
- Piloting and implementing full scale solutions
- Applying the principles of one-piece flow in manufacturing and service
- Implementing a 5S methodology

The Control Phase - Controlling the process and sustaining the benefits

- Mistake proofing using 'Poka Yoke' methods
- Using process information to maintain control
- Applying Total Productive Maintenance (TPM) to maintain productivity
- Sustaining change through training and engagement
- Understanding the construction and use of control charting
- Sharing the improvements, learning and benefits across the organisation

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*Course Facilitator
Mel Thornley- Director of Thornley Group*

Mel has over 20 years of experience in the implementation of Business Process Improvement. He has a Masters Degree in Engineering and an MBA and in addition he is a Chartered Quality Professional, a Lean Six Sigma Master Black Belt and Master Lean Coach.

Mel has extensive experience in the deployment of improvement strategies gained from the Automotive, Aerospace and Heavy Engineering industries. In addition he has several years experience in Customer Service and New Product Development.

Since founding Thornley Group in 2006, Mel has worked with manufacturing, food, financial and service organisations in New Zealand and has personally trained hundreds of people in the Lean and Six Sigma methodologies.