

## Lean-Six Sigma Certification

The Lean approach systematically minimizes waste--called *muda*--in the value stream. *Muda* includes all types of defective work, not just defective products. Wasted time, motion, and materials are also *muda*.

Six Sigma is the strategy used in reducing the amount of variation concerned with completing a process on a repeated basis, so that the overall product can function at a level that is acceptable to the customer. It is also the practice of constant improvement by identifying defects that can be brought under control in order to improve the functionality of the end product. While it may seem like Six Sigma is a highly technical skill, in reality it is used in many different sectors. It is not uncommon to see Six Sigma practices implemented into marketing, sales, and customer support organizations as well.

“Quality is a measure of value added by a productive endeavour. Potential quality is the maximum possible value added per unit of input. Actual quality is the current value added per unit of input. The difference between potential and actual quality is *muda*”. - Thomas Pyzdek the author of The Complete Guide to Six Sigma.

By defining quality in terms of value rather than in terms of defects we can see that Six Sigma quality involves a search for ways to reduce *muda*.

Six Sigma is:

1. A general approach to reducing *muda* in **any** environment.
2. A collection of simple and sophisticated methods for analysis of complex cause-and-effect relationships
3. A means of discovering opportunities for improvement

*Lean* offers a set of **solutions** to *muda* in a high-variety production environment. Six Sigma applies to the problems addressed by *Lean*, but it also seeks other problems. However, since both Six Sigma and *Lean* address the problem of *muda*, there is a great deal of overlap. The two approaches should be viewed as complementing one another.

Productivity Institute has designed the Lean Six Sigma Certification programmes to meet world-class standards. These certification programmes are run as public workshops and also in-house.

The certification involves training as well as project work, as practical application of the Lean and Six Sigma principles at workplace to make a difference to the bottom-line of the business is paramount.

There are 4 types of certification starting from the White Belt which is a 1 day overview to the Black Belt which requires at least 20days of training a projects with a savings to the tune of \$1.5 Million.

These Lean-Six Sigma programmes will be taken by an ASQ (American Society for Quality) Certified Manager in Quality and a Master Black Belt.



## Course Code PIWB01 – Lean-Sigma White Belt (1day)

The White Belt is an introductory course to Lean Six Sigma and covers an overview of the topics.

- This course is suitable for all, Management down to shop floor staff
- Prerequisites: None

## Course Code PIYB01 – Lean-Sigma Yellow Belt (3 days)

### Define Phase

Understanding Six Sigma  
Six Sigma Fundamentals  
Selecting Projects  
Elements of Waste  
Wrap Up and Action Items

### Measure Phase

Process Discovery  
Six Sigma Statistics  
Measurement System Analysis  
Process Capability  
Wrap Up and Action Items

### Control Phase

Lean Controls  
Defect Controls  
Statistical Process Control (SPC)  
Six Sigma Control Plans  
Wrap Up and Action Items

- This course is suitable for staff who are keen to advance to the Green Belt stage
- Prerequisites: None
- Should take part in 6 to 9 months of project work involving business process analysis at a junior level supporting a Green Belt
- Savings Target = \$10K

## Course Code PIGB01 – Lean-Sigma Green Belt (5 days)

- I. Enterprise-Wide Deployment & continuous Improvement
  - A. *Integration of Lean and Six Sigma*
  - B. *Business processes and systems*
  - C. *Six sigma and Lean applications*
  - D. *Change management*
  - E. *Six Sigma projects and kaizen events*
  - F. *Roles and responsibilities*
- II. Organizational Process Management and Measures
  - A. *Impact on stakeholders*
  - B. *Critical to x (CTx) requirements*
  - C. *Benchmarking*
  - D. *Business performance measures*
  - E. *Financial measures*
- III. Team Management
- IV. Define
  - A. *Voice of the customer*
  - B. *Project charter*
  - C. *Project tracking*
- V. Measure
  - A. *Process characteristics*
  - B. *Data collection*
  - C. *Measurement systems*
  - D. *Basic statistics*
  - E. *Process capability*
- VI. Analyze
  - A. *Measuring & relationships between variables*
  - B. *Hypothesis testing*
  - C. *Failure mode and effects analysis (FMEA)*
  - D. *Gap analysis / Root cause analysis / Waste analysis*
- VII. Improve
  - A. *Design of experiments (DOE)*
  - B. *Waste elimination*
  - C. *Cycle-time reduction*
  - D. *Kaizen and kaizen blitz*
  - E. *Theory of constraints (TOC)*
  - F. *Implementation*
  - G. *Risk analysis and mitigation*
- VIII. Control
  - A. *Statistical process control (SPC)*
  - B. *Total productive maintenance (TPM)*
  - C. *Visual factory*
  - D. *Maintain controls*
  - E. *Sustain improvements*
- IX. Design for Six Sigma (DFSS) Frameworks and Methodologies [7 Questions]
  - A. *Common DFSS methodologies*
  - B. *Design for X (DFX)*

- This course is suitable for staff who are keen to advance to the Black Belt stage
- Prerequisites: Either tertiary qualified or an Yellow Belt
- Should take part in 9 to 12 months of project work involving business process analysis and improvement at a senior level supporting a Black Belt
- Savings Target = \$50K



## **Course Code PIBB01 – Lean-Sigma Black Belt (5 x 3 days)**

In addition to the topics covered under the Green Belt curriculum, the following also will be covered:

### **Organisation Excellence**

- I. Organizational Structures and Culture Leadership Challenges
- II. Teams and Team Processes
- III. Strategic Plan Development and Deployment
- IV. Management Elements and Methods
- V. Communication
- VI. Project Management
- VII. Quality Management & tools
- VIII. Process Management & Tools
- IX. Lean Tools & measurement systems
- X. Customer Relationship Management
- XI. Supply Chain Management

- This course is suitable for staff who are keen to be Black Belts or interested in advancing to the Master Black Belt stage
- Prerequisites: Green Belt
- Should take part in 18 to 24 months of project work involving business process analysis and improvement at a strategic supervisory level
- Savings Target > \$1.5 Million

**For any further information or to book your training  
please contact Productivity Institute by emailing  
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