



Crystal Lean Solutions

**Training**  
Academy

# Lean Green Belt



# Lean Green Belt

<b>DURATION:</b>	5 Days
<b>ACCREDITATION:</b>	CPD Approved by Engineers Ireland
<b>COURSE CODE:</b>	1010

## AIM:

The Green Belt for Construction programme provides learners with the knowledge and capability to systematically improve processes using Lean thinking and philosophy, resulting in the systematic improvement of project delivery, and increasing value for the client.

## OBJECTIVES:

At the end of the course, learners will be able to:

- ✿ Use the DMAIC methodology with Lean thinking and tools to deliver a sustainable change in project delivery processes.
- ✿ Apply Lean tools across the project delivery value stream from procurement to handover, in order to improve key metrics of safety, quality, budget and on-time delivery.
- ✿ Understand Lean in the contracts and design process, including Integrated Project Delivery, Target Value Design (TVD) and describe the positive impact on project delivery.
- ✿ Consistently improve handoffs efficiency to support project delivery.
- ✿ Make data-based decisions through the application of appropriate graphical tools.
- ✿ Mentor Yellow Belt Projects.
- ✿ Describe the Last Planner System and Scrum for construction project delivery.
- ✿ Use the Choosing by Advantages system.

## **THIS PROGRAMME IS FOR:**

This programme is aimed at personnel that lead small to medium improvement teams, and who work continuously to improve the business processes, including, but not limited to:

- \* Contract managers
- \* Procurement
- \* Project managers
- \* Quality Assurance
- \* Quantity surveyors
- \* Engineering and design personnel
- \* Schedulers
- \* Site managers

## **PROGRAMME CONTENT:**

### **1. Introduction to Lean Construction Green Belt Programme**

- \* Green Belt course curriculum.
- \* Assignment schedule.
- \* Certification Process.
- \* Overview of Lean in Construction.
- \* DMAIC methodology for process improvement.

### **2. Define Phase**

- \* Team roles - Sponsor, Leader, Team, Stakeholders.
- \* SMART Problem definition.
- \* Team management.
- \* DMAIC update.

### **3. Measure Phase**

- \* Introduction to the Value Stream Map and VOC.
- \* Swimlane process mapping.
- \* Mapping flow using a Spaghetti Chart.
- \* Data charting: run charts, Pareto, charts, box plots, histograms, scatter plot.
- \* Introduction to Descriptive Statistics: measures of location and variation.
- \* Process capability analysis.
- \* Direct observation.
- \* Flow and pull of project and information.
- \* Lessons learned.
- \* DMAIC update.

#### **4. Analyse Phase**

- \* Identify Potential causes with a Cause-and-Effect Diagram.
- \* Prioritisation of Causes.
- \* Verification of Causes.
- \* 5 Whys - Identify the Root Cause.
- \* Selection of Causes to improve.
- \* 8 Wastes.
- \* DMAIC update.

#### **5. Improve Phase**

- \* Introduction to the Value Stream Map.
- \* Integrated Project Delivery (IPD).
- \* Target Value Design/Delivery (TVD).
- \* Choosing by Advantages (CBA).
- \* Set Based Design.
- \* SCRUM for Design.
- \* Lean Contract & Procurement Models.
- \* Last Planner System (LPS) integration and CoPlan software for LPS.
- \* Takt Planning.
- \* 5S workplace design.
- \* Standard Work.
- \* Risk Mitigation.
- \* Demand Management.
- \* Countermeasures and Improvement Plan.
- \* DMAIC Update.

#### **6. Control Phase**

- \* Data Analysis and Trending.
- \* Lean Deployment in an Organisation.
- \* Training process.
- \* Change Management.
- \* Alignment of Lean with Quality, Sustainability and Business Objectives.
- \* Rewarding the team.
- \* DMAIC update

**ASSESSMENT:**

The learner completes a project that demonstrates the learners understanding of each topic completed during training and how it applies to a real work example. Ideally the project should be relevant to your current or previous work environment. The project is presented as a presentation using the PowerPoint template provided at the start of the programme. The project shows evidence of relevant reading for the project and include the bibliography.

An assignment brief is provided at the start of training programme

**GRADING:**

The grading is a total of both the assessment and assignment with a minimum expectation of 50% for certification in both the exam and the assignment for certification.

**Pass 50% to 64%** Demonstrated fundamental knowledge and understanding of course material.

**Merit 65% – 79%** Demonstrated fundamental knowledge of course material and demonstrated ability to be able to apply in real-world situations.

**Distinction: 80% - 100%** Demonstrated deep understanding of the course material and application, being able to discuss the pros and cons of the course materials, theories and offer alternatives based on research.

**PROGRAMME DELIVERY:**

**Classroom:** 5 classroom days in the following order (2 days: 2 days: 1 day); recommended two-weeks between each delivery day.

**TOTAL DURATION OF THE PROGRAMME INCLUDES:**

**Classroom training:** 6 days

**Project Mentoring:** 3 hours per learner

**Self-directed learning:** 48 hours

**CERTIFICATION CRITERIA:**

Attend all training days  
Completion of the assessment

**CERTIFICATION BODY:**

Crystal Lean Solutions – CPD approved by Engineers Ireland (80 hours).

**RECOGNITION OF PRIOR LEARNING (RPL):**

Not Applicable

**PRE-REQUISITE:**

None

**OTHER COURSES OF INTEREST FROM THE CLS TRAINING ACADEMY:**



-  Professional Diploma in Leadership
-  Strategy Development and Deployment
-  Human Error Problem Solving
-  Introduction to AI
-  Intermediate Excel