



Crystal Lean Solutions

Training
Academy

ASQ Lean Six Sigma Yellow Belt



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DURATION: 3 Days

ACCREDITATION: ASQ (American Society for Quality)

COURSE CODE: 1020

AIM:

The aim of this programme is to provide you with a strong foundation, knowledge and skills in Six Sigma problem solving to improve business performance and support a culture of systematic, data driven continuous improvement culture.

OBJECTIVES:

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

- ✿ Describe the Six Sigma philosophy of variation reduction
- ✿ Apply the Six Sigma DMAIC methodology to deliver an improvement project
- ✿ Support Six Sigma Green Belts with large improvement projects
- ✿ Describe and improve the capability of your process measurement system and process to deliver high quality performance and customer requirements
- ✿ Be prepared to undertake the ASQ certified Six Sigma Yellow Belt (CSSYB) examination, which is based on the ASQ Body of Knowledge for Yellow Belts

THIS PROGRAMME IS FOR:

This programme is suitable to roles that are involved in continuous improvement of process and are comfortable with analysing data. This includes, but not limited to:
Engineers – Quality, Manufacturing, Mechanical, Maintenance
Technicians - Quality, Manufacturing, Mechanical, Maintenance
Managers– interested in learning more about Six Sigma and how to apply in your organisation.

PROGRAMME CONTENT:

Module 1: Six Sigma Fundamentals

- * Introduction to Six Sigma foundations and principles
- * Introduction to Lean foundations and principles
- * Six sigma roles and responsibilities
- * Team basics
 - Types of teams
 - Decision-making tools
 - Communication methods
- * Quality tools and six sigma metrics
 - Quality tools throughout the DMAIC process: Flowcharts, run charts, check sheets, scatter diagram, histograms, pareto charts.
- * Six Sigma metrics throughout the DMAIC process
 - Defects per unit (DPU)
 - Defects per million opportunities (DPMO)
 - Rolled throughout yield (RTY)
 - Cycle time
 - Cost of poor quality (COPQ)
- * Activities to bring theory to life
- * Complete sample ASQ questions

Module 2: Define Phase

- * Project Identification
 - Voice of the customer
 - Project selection
 - Stakeholder analysis
 - Process inputs and outputs
 - Supply chain management
- * Project Management Basics
 - Project charter
 - Communication plan
 - Project Planning
- * Work breakdown structure (WBS)
- * GANTT Charts
- * Project Management tools
 - Actively network diagrams
 - Affinity diagrams
 - Matrix charts
 - Relations charts
 - Tree diagrams
- * Phase Reviews
 - Tollgate or phase reviews
- * Activities to bring theory to life
- * Complete sample ASQ questions

Module 3: Measure Phase

- ✱ Basic Statistics
 - Central tendency (mean, median and mode)
 - Measure of dispersion (Standard deviation, range, variance)
- ✱ Data Collection
 - Data collection plans
 - Qualitative and quantitative data
 - Data collection techniques (Surveys, interviews, check sheets, checklists)
- ✱ Measurement System Analysis (MSA)
 - MSA Terms (precision, accuracy, bias, linearity, stability)
- ✱ Gauge repeatability and reproducibility (GR&R)
- ✱ Activities to bring theory to life
- ✱ Complete sample ASQ questions

Module 4: Analyse Phase

- ✱ Process analysis tools
 - Lean Tools (5S, value analysis)
 - Failure modes and effects analysis (FMEA)
- ✱ Root Cause Analysis
 - 5 whys
 - Process mapping
 - 8D
 - Force-field analysis
 - Matrix charts
- ✱ Corrective Action
 - Interim action
 - Permanent action
 - Validation
- ✱ Preventative Action
 - Process analysis techniques
 - Error-proofing
 - Initiating procedural changes
- ✱ Data Analysis
 - Basic distribution types (normal and binomial distribution, shapes)
 - Common and special cause variation
- ✱ Correlation and Regression
 - Correlation (relationships between variables)
 - Regression (how regression analysis is used to predict outcomes)
- ✱ Introduction to Hypothesis testing
 - Null and alternative
 - Type I and type II error
 - P-value and power
- ✱ Activities to bring theory to life
- ✱ Complete sample ASQ questions

Module 5: Control and Improve Phase

- ✱ Improvement techniques
 - Kaizen and kaizen blitz
 - Plan-do-check-act (PDCA) cycle
 - Cost-benefit analysis
- ✱ Control tools and documentation
 - Control plan
 - Control charts (X-R charts)
 - Document control
 - Work instructions and standard operating procedures (SOP's)
- ✱ Activities to bring theory to life
- ✱ Complete sample ASQ questions

ASSESSMENT:	See certification requirements below
GRADING:	See certification requirements below
PROGRAMME DELIVERY:	3 days classroom-based
TOTAL DURATION OF THE PROGRAMME INCLUDES:	<p>Classroom duration: 3 days</p> <p>Self-directed learning: 80 hours (for examination preparation)</p>
CERTIFICATION CRITERIA:	<p>ASQ describe the cost of ASQ certification and certification criteria at the following location.</p> <p>ASQ Lean Six Sigma Yellow Belt</p>
CERTIFICATION BODY:	American Society for Quality (ASQ)
RECOGNITION OF PRIOR LEARNING (RPL):	Not Applicable
PRE-REQUISITE:	None

OTHER COURSES OF INTEREST FROM THE CLS TRAINING ACADEMY:



- ✿ ASQ Lean Six Sigma Green Belt
- ✿ Professional Diploma in Leadership
- ✿ Strategy Development and Deployment
- ✿ Effective Presentation Skills
- ✿ Team Dynamics
- ✿ Change Management
- ✿ Human Error Problem Solving
- ✿ Professional Certificate in Project Management