Six Sigma Manufacturing Green Belt

June 2019 programme:
Block 1: Jun 10 to 13 2019
Block 2: Jul 8 to 11 2019
Block 3: Aug 21 & 22 2019

Duration:	10 days
Fee:	£2250+VAT

Includes:
- Comprehensive training manual
- Smallpeice accreditation
- Lunches and refreshments
- Lean Sigma toolkit
- Access to Lean Sigma website

Venue:
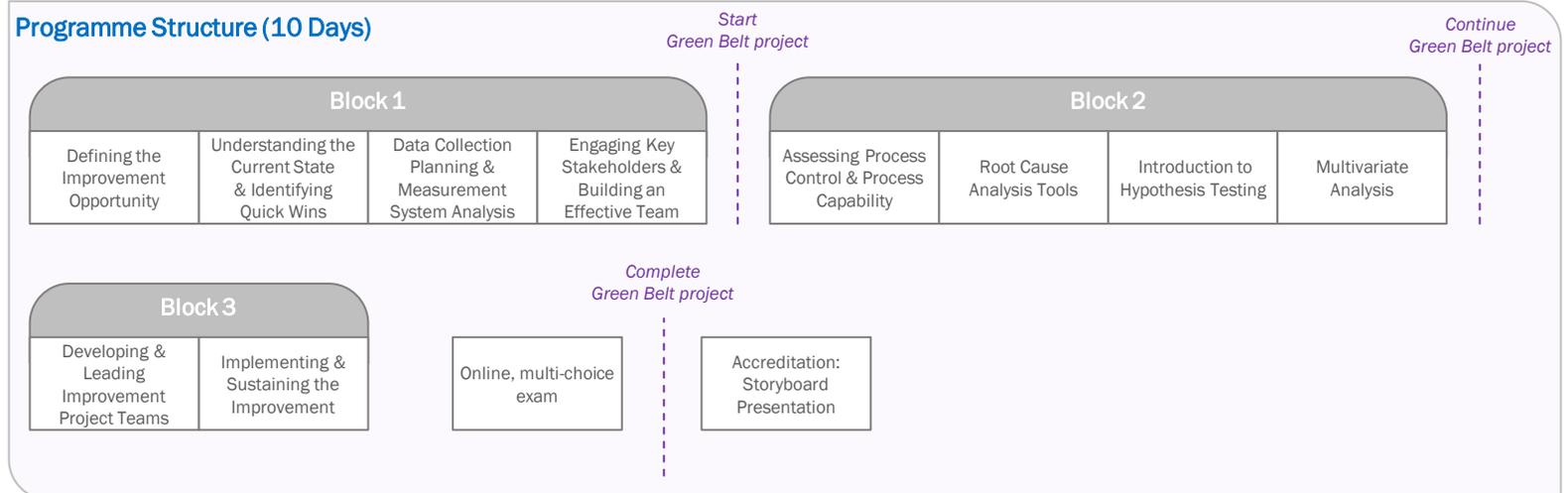Smallpeice is in central UK (Leamington Spa – CV32 4ES), with easy access:
- by road: from the M40
- by rail: a 5-minuite taxi journey from Leamington Spa station
- by air: just 25 minutes from Birmingham Airport

Introduction

This programme is specifically designed for Green Belts who will be running manufacturing projects. Following the DMAIC structure, the training focuses on the tools that are appropriate for business-based improvement activities. Minitab is introduced, along with user-friendly sessions in data collection & statistics. Business project examples are used throughout. The training is structured to be interactive and participative with practical exercises to help delegates to quickly develop their skills to:

- lead projects that deliver tangible organisational benefits
- be familiar and confident with the key tools and techniques of Sigma and understand how to use them within the organisation's day-to-day activities
- be effective team members on any Six Sigma or improvement project team

Programme Structure (10 Days)

Start Green Belt project *Continue Green Belt project*

Block 1				Block 2			
Defining the Improvement Opportunity	Understanding the Current State & Identifying Quick Wins	Data Collection Planning & Measurement System Analysis	Engaging Key Stakeholders & Building an Effective Team	Assessing Process Control & Process Capability	Root Cause Analysis Tools	Introduction to Hypothesis Testing	Multivariate Analysis

Complete Green Belt project

Block 3			
Developing & Leading Improvement Project Teams	Implementing & Sustaining the Improvement	Online, multi-choice exam	Accreditation: Storyboard Presentation

Accreditation

The Smallpeice accreditation process requires completion of a project for formal assessment and passing a multi-choice exam. The exam can be taken online after training is completed (revision and practice questions are also provided).

BQF Accreditation Option

Smallpeice courses are also licensed to BQF (British Quality Foundation) standards, enabling candidates to achieve this external accreditation. The accreditation steps are as described above, with an additional £250 fee to cover the BQF licensed accreditation route.

Coaching & Support

Coaching and support is available in the form of structured face-to-face coaching, or remote support via webex / phone. We also offer a pre-accreditation check which provides a detailed review of projects prior to accreditation submission. Please call to discuss these options in more detail.

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V2.0-Lean Sigma Manufacturing Green Belt--public

Detailed Programme of Content

	Day 1	Day 2	Day 3	Day 4
BLOCK 1	**Defining the Improvement Opportunity**	**Understanding the Current State & Identifying Quick Wins**	**Data Collection Planning & Measurement Systems Analysis**	**Engaging Key Stakeholders & Building an Effective Project Team**
	Programme Introduction • Programme objectives • Improvement project roles and responsibilities **Improvement Roadmap** • Introduction to the Lean Sigma approach • The DMAIC project roadmap • Project selection criteria • Where are the biggest opportunities? – Pareto • Application of the DMAIC toolkit in daily work **The Define Phase** • Writing problem statements • Setting the project objectives • Scoping the project – concept of y =f (x) • Mapping the high level process – SIPOC mapping • Linking the problem to the voice of the customer • Defining critical to quality characteristics • Drawing up the project charter	**The Measure Phase** • The difference between process bias and data bias projects – navigating the roadmap **Value Stream Mapping (VSM)** • Defining value and waste: the 8 wastes • Defining value streams • Organising by value stream • Mapping the current state • Key value stream metrics • Facilitating mapping activities – hints and tips **Process Mapping & Process Analysis Tools** • Detail process mapping tools overview • Role of process mapping in DMAIC projects • Process flow & sequence charting techniques • identifying and implementing quick wins **Process Analysis using FMEA** • Identifying weaknesses in the process • Use of failure mode effects analysis (FMEA) to identify potential opportunities for defects • Evaluating reducing and managing risk	**Data Collection Planning** • Selecting what to measure • Key considerations for data collection planning • Deciding how to collect the data: an introduction to sampling techniques • Using operational definitions for data collection **Statistical Concepts & Minitab** • Learning to describe data –measures of location, variation and shape • Communicating statistics to a non-technical audience • Introduction to Minitab software • Visualising descriptive statistics – graphical summary **Measurement Systems Analysis** • Checking the measurement system • Understanding measurement system variation • An introduction to gauge repeatability and reproducibility • Gauge R & R in Minitab **Next Steps Planning** • Project planning – define and measure	**Enablers for Project Success** • Pre-requisites for project success • Analysing enablers/barriers using force field analysis • Building and communicating the business case **Securing Project Sponsorship** • The role of the project sponsor • Identifying and engaging senior support **Engaging Key Stakeholders** • Stakeholder analysis tools • Understanding what motivates people • Influencing skills & dealing with initial resistance **Building and Managing the Project Team** • Selecting the team and assigning roles • The role of the Belt as facilitator • Developing the project plan **Engaging the Team in Continuous Improvement** • Assessing and improving workplace organisation • Creating a visual workplace • The role of standards and process compliance • Encouraging everyday Kaizen

	Day 5	Day 6	Day 7	Day 8
BLOCK 2	**Assessing Process Control & Process Capability**	**Root Cause Analysis Tools**	**Introduction to Hypothesis Testing**	**Multivariate Analysis**
	Progress Review • Block 1 revision; project progress reviews **Base-lining the Current Process** • Key questions in the measure phase **Assessing Process Control** • Understanding different types of process variation • Understanding process control • Anatomy & use of control charts • Applications of SPC charts **Assessing Process Capability** • Understanding process capability • Calculating process capability for continuous and attribute data • Selecting appropriate capability metrics & indices • Communicating statistics to a non-technical audience	**The Analyse Phase** • Introduction to the analyse phase • Process and data analysis roadmaps **Verifying the Root Cause: Data Analysis Toolkit** • Taking a structured approach to data analysis • Writing an analysis plan • Link to cause and effect diagram • 5 Why approach to problem solving • Stratifying the data – use of box plots • Are there any relationships? Scatter diagrams • Introduction to significance testing approach • Non-graphical methods for verifying the root cause • Links to project storyboard – hints and tips for summarising and presenting the analysis	**Advanced Graphical Analysis Tools** • Understanding and fitting probability distributions • Dealing with non-normal data **Introduction to Hypothesis Testing** • Use of inferential statistics • Understanding confidence intervals • Developing statistical hypotheses • Setting confidence levels – understanding sampling risk • Running and interpreting hypothesis test for variable and attribute data • Managing power & sample size • Practical application of hypothesis testing – case studies and examples	**Introduction to Regression Analysis** • Understanding correlation • Introduction to simple linear regression • Application in lean sigma projects **Optimisation Processes: Design Of Experiments** • Introduction to designed experiments (DOE) • Applications of DOE techniques • Conducting a simple DOE experiment

	Day 9	Day 10
BLOCK 3	**Developing & Leading Improvement Project Teams**	**Implementing & Sustaining the Improvement**
	Leading & Developing Improvement Teams • Characteristics of effective teams & stages of improvement team development • Developing performing teams through effective leadership **Facilitating for Maximum Results** • Running effective workshops & meetings • Managing conflict; dealing with difficult people & situations • Adapting communications for groups **Implementing Change** • Putting the plan into action & managing resistance • Understanding people's response to changes **Embedding Change** • Maintaining momentum/Transferring ownership • Anchoring the change	**Improve Phase: Solution Generation & Piloting** • Challenges of the improve phase • Generating alternative solutions • The role of creativity in Lean thinking • Creative thinking tools • Evaluating and selecting the best solution • Piloting & solution introduction **Solution Introduction & Control** • Developing a control plan • Prevention & detection systems • Choice of control method • Out of control action planning • Handover & transferring benefits • Planning for continuous improvement