



SIX SIGMA MANUFACTURING BLACK BELT

18-Day Programme ~ commences July 19th 2010 ~ Leamington Spa



INTRODUCTION
<p>As an expert process improvement resource, Black Belts are tasked with delivering measurable benefits through quantifiable improvement projects.</p> <p>This 18-day programme will develop Black Belts who are skilled in leading, executing and completing projects.</p> <p>They will be trained as experts in Six Sigma tools and concepts, and develop their ability to demonstrate appropriate leadership, creativity and communication skills.</p>
OBJECTIVES
<ul style="list-style-type: none"> Ensure the DMAIC flow and application of tools are fully understood Introduce the leadership and change management skills to support the Black Belt role Provide practitioner training in the more complex statistical tools required within the Black Belt toolkit Provide guidance on Black Belt certification process & discuss delegate projects
ACCREDITATION PROCESS
<p>Smallpeice offer an Accreditation process for Manufacturing Six Sigma Black Belt trainees, which incorporates undertaking a project, multi-choice examination and project presentation.</p>
PROGRAMME FEES
<p>£5350+VAT per delegate, includes:</p> <ul style="list-style-type: none"> All materials Lunches and refreshments Accreditation

PROGRAMME CONTENT				
BLOCK 1				
July 19	July 20	July 21	July 22	July 23
Six Sigma Roadmap & Essentials <ul style="list-style-type: none"> DMAIC roadmap Project selection criteria The Define Phase <ul style="list-style-type: none"> Identifying VOC Understanding process flow & cause & effect Project management tools 	Failure Modes & Effects Analysis (FMEA) <ul style="list-style-type: none"> The role of FMEA in Six Sigma Managing Process FMEA Introduction to Statistical Concepts & Minitab <ul style="list-style-type: none"> Descriptive & inferential statistics Basic statistics & Minitab 	Data Collection Planning & Measurement Systems Analysis <ul style="list-style-type: none"> Organising robust data collection MSA: working with attribute & variable data Measurement Systems Analysis using Minitab 	Leading Project Teams & Teamworking <ul style="list-style-type: none"> Leadership skills for Green Belts Communications & engaging support Managing Process Transformation <ul style="list-style-type: none"> Embedding change Influencing for change Team performance during change 	Graphical Analysis Techniques <ul style="list-style-type: none"> Techniques for attribute/variable data Visualising data Introduction to (SPC) & Capability Analysis <ul style="list-style-type: none"> Introduction to SPC Anatomy & use of control charts Capability metrics & indices
BLOCK 2				
August 16	August 17	August 18	August 19	August 20
Quality Tools <ul style="list-style-type: none"> Shainin techniques Shainin's problem solving route map Shainin tools & techniques Hypothesis Testing (Part 1) <ul style="list-style-type: none"> Using inferential statistics Significance testing route map 	Hypothesis Testing (Part 2) <ul style="list-style-type: none"> Analysis of variable & attribute data Regression Analysis <ul style="list-style-type: none"> Introduction to regression analysis Using regression techniques Simple linear regression Basic diagnostic techniques 	Design Of Experiments <ul style="list-style-type: none"> Introduction to designed experiments Applications of DOE techniques Basic system optimisation 	Design Of Experiments (Contd) <ul style="list-style-type: none"> Screening techniques using DOE Introduction to Taguchi techniques 	Solution Intro & Control <ul style="list-style-type: none"> Improvement validation & cost/benefit analysis Review of control techniques The transfer phase
BLOCK 3				
September 14	September 15	September 16	September 17	
Course Introduction <ul style="list-style-type: none"> Expectations & objectives The role of a Black Belt Black Belt project selection Project profile & certification Define Phase Revisited <ul style="list-style-type: none"> Scoping complex cross-functional projects Use of quality function deployment for understanding the voice of the customer Benefits calculation & tracking Planning for change 	Advanced Data Collection Planning <ul style="list-style-type: none"> Sample size calculation and sampling techniques Gauge R&R for variable and attribute data Advanced statistical process control for attribute and variable data Multi-vari charts Process capability and use of Z tables 	Advanced Statistics <ul style="list-style-type: none"> Basic statistics and probability revisited Probability distributions The central limit theorem Dealing with non-normal data Planning and communication data analysis 	Hypothesis Testing <ul style="list-style-type: none"> Use of inferential statistics Significance testing route map Analysis of variable and attribute data Non-parametric techniques 	
BLOCK 4				
October 11	October 12	October 13	October 14	
Multi-Variable Regression <ul style="list-style-type: none"> Introduction to multiple regression Analysis of multi-variable data Further diagnostic techniques Signpost to advanced regression techniques 	Advanced Design of Experiments <ul style="list-style-type: none"> Benefits and limitations basic DOE techniques Overview of advanced techniques 3 level designs Taguchi methods 	Advanced DoE (Cont'd) <ul style="list-style-type: none"> Taguchi's robust engineering (CCD, CCF and Box-Behnken designs) Introduction to evolutionary experimentation (EVOP techniques) 	Control <ul style="list-style-type: none"> Control phase techniques Embedding the change within the business Application of long term MSA Long-term control Intro to DFSS <ul style="list-style-type: none"> Introduction to design for six sigma and the DMADV methodology Links to DMAIC Review & Next Steps Planning	