

## Six Sigma - Black Belt

**Summary:** This course is designed to deepen and broaden skills and confidence in Problem Solving and Process Improvement in a team-based environment. Delegates will be exposed to a range of Black Belt level advanced quality tools and will develop Black Belts in their roles of coaching Green Belts and leading more complex projects. The format of the programme allows delegates to apply their learning to live projects and to take advantage of Capella's expert coaching support enabling bottom-line business benefits to be delivered and a project to be completed within the timeframe of the programme. Delegate's managers are encouraged to join the Launch on the morning of the first day and project reviews at the midpoint and on the final day in order to help ensure maximum success. Delegates completing this course will receive a certificate of attendance and those who fully meet the assessment criteria will receive a Certified Six Sigma Black Belt award

**Aimed at:** All people who work with complex processes and people who support those working on improvement projects

**Prior qualifications/experience:** Completion of a Green Belt programme or equivalent is necessary

**Duration:** 12 days

**Format:** 1 phase each month for 6-8 months

**Software Specification:** Minitab is the software of choice for Six Sigma practitioners and delegates will need access to this throughout the programme

**Objectives:** By the end of the programme, participants will be able to:

- Work with others to identify and quantify opportunities for improvement within their organisation
- Organise multi-disciplinary teams and manage improvement projects
- Lead complex improvement projects using the DMAIC methodology and advanced quality tools
- Monitor own and others progress in the completion of improvement projects
- Confidently coach others in the Six Sigma methodology and tools

**Content:**

<p><u>Phase 1 – Launch, Overview, Define and Project Management (2 days)</u>          Six Sigma deployment          Six Sigma methodology and reporting          Project selection and scoping          Is/Is Not          Problem statements          Cost of Poor Quality and Taguchi Loss Function          Operational Definitions          Voice of Customer and Kano Model          Boundary Diagrams and P-Diagrams          DFMEA/PFMEA          Process Mapping          Project Charters, Project Management tools and communication planning</p>
<p><u>Phase 2 – Measure (3 days)</u>          Variable and Attribute data          Power and Sample size          Normality Testing          Confidence Intervals          Measurement Systems Analysis          Probability          Capability Analysis (Variable and Attribute data)          Long term v short term data          Non Normal Data</p>
<p><u>Phase 3 – Analyse 1 and Project Reviews (2 days)</u>          Graphical Analysis tools including:          Multi Vari Charts          Correlation and Regression          Root Cause Analysis          Hypothesis Testing (Variable and Attribute data)          ANOVA          Project Reviews</p>
<p><u>Phase 4 – Analyse 2 (2 days)</u>          Mid Reviews          Design of Experiments</p>
<p><u>Phase 5 – Improve and Control (2 days)</u>          Design of Experiments cont'd          Improvement Alternatives          Validation of Improvements          Standard Operating Procedures          Reliability          Error Proofing          Long-term MSA          Control Charts (Variable and Attribute data)          Control and Replication Plans          Replication</p>
<p><u>Phase 6 – Project Reviews (1 day)</u>          Project reviews</p>

**Leadership and Personal Development, Strategic Management, Lean Six Sigma & Quality Tools**