

Six Sigma Knowledge Requirements	GREEN	BLACK	MASTER	CHAMPION / PROCESS OWNER
<b>OVERVIEW</b>				
Overview of Six Sigma	✓	✓	✓	✓
DMAIC Methodology Overview	✓	✓	✓	✓
Financial Benefits of Six Sigma	✓	✓	✓	✓
The Impact of Six Sigma to The Organization	✓	✓	✓	✓
The Six Sigma Language	✓	✓	✓	✓
Project Prioritization			✓	✓
Training the Trainer			✓	
Integrating DMADV (Design for Six Sigma Methodology) with DMAIC			✓	
Leading Organizational Change			✓	✓
Launching a Six Sigma Initiative				✓
Roles of the Six Sigma Organization				✓
Selecting and Developing Black Belts and Master Black Belts				✓
Lessons Learned from Prior Six Sigma Implementations				✓
Human Resources for Six Sigma				✓
Reward and Recognition System				✓
<b>Define</b>				
Overview of Define				✓
Project Management		✓	✓	
Project Definition	✓	✓	✓	✓
Project Charter	✓	✓	✓	✓
Developing a Business Case	✓	✓	✓	
Chartering a Team	✓	✓	✓	
Defining Roles and Responsibilities	✓	✓	✓	
Gathering Voice of the Customer, Support for Project	✓	✓	✓	✓
Translating Customer Needs into Specific Requirements (CTQs)	✓	✓	✓	✓
SIPOC Diagram	✓	✓	✓	✓
Questions to Ensure a Successful Define Phase				✓
Define Phase Review	✓	✓	✓	
<b>Measure</b>				
Overview of Measure				✓
Process Mapping (As-Is Process)	✓	✓	✓	✓
Data Attributes (Continuous Versus Discrete)	✓	✓	✓	✓
Defining Metrics		✓	✓	
Measurement System Analysis	✓	✓	✓	✓
Gage Repeatability and Reproducibility		✓	✓	✓
Data Collection Techniques	✓	✓	✓	
Calculating Sample Size		✓	✓	
Data Collection Plan	✓	✓	✓	
Understanding Variation	✓	✓	✓	
Measuring Process Capability	✓	✓	✓	✓
Calculating Process Sigma Level	✓	✓	✓	✓
Rolled Throughput Yield		✓	✓	
Visually Displaying Baseline Performance	✓	✓	✓	✓
Statistical Software Training			✓	
Questions to Ensure a Successful Measure Phase				✓
Measurement Phase Review	✓	✓	✓	

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<b>Analyze</b>				
Overview of Analyze				✓
Visually Displaying Data (Histogram, Run Chart, Pareto Chart, Scatter Diagram)	✓	✓	✓	✓
Detailed (Lower Level) Process Mapping of Critical Areas	✓	✓	✓	
Value-Added Analysis	✓	✓	✓	✓
Cause and Effect Analysis (a.k.a. Fishbone, Ishikawa)	✓	✓	✓	✓
Affinity Diagram	✓	✓	✓	
Data Segmentation and Stratification	✓	✓	✓	
Correlation and Regression (Linear, Multiple)		✓	✓	
Process Performance (Cp, CpK, Pp, PpK, CpM)		✓	✓	
Short Term Versus Long Term Capability		✓	✓	
Non-Normal Data Distribution Transformations		✓	✓	
Central Limit Theorem		✓	✓	
Goodness of Fit Testing		✓	✓	
Hypothesis Testing		✓	✓	
Analysis of Variance (ANOVA), Two Sample T-Tests, Chi Squared Test		✓	✓	
Design of Experiments (DOE) - Full, Fractional Factorials		✓	✓	
Verification of Root Causes	✓	✓	✓	✓
Determining Opportunity (Defects and Financial) for Improvement	✓	✓	✓	✓
Project Charter Review and Revision		✓	✓	✓
Statistical Software Training		✓	✓	
Questions to Ensure a Successful Analyze Phase				✓
Analyze Phase Review	✓		✓	
<b>Improve</b>				
Overview of Improve				✓
Brainstorming	✓	✓	✓	✓
Multi-Voting	✓	✓	✓	
Process Simulation		✓	✓	
Quality Function Deployment (House of Quality)	✓	✓	✓	✓
Selecting a Solution	✓	✓	✓	
Failure Modes and Effects Analysis (FMEA)	✓	✓	✓	✓
Poka Yoke (Mistake Proofing Your New Process)	✓	✓	✓	
Piloting Your Solution	✓	✓	✓	✓
Implementation Planning	✓	✓	✓	✓
Statistical Software Training		✓	✓	
Culture Modification Planning For Your Organization		✓	✓	✓
Questions to Ensure a Successful Improve Phase				✓
Improve Phase Review	✓		✓	
<b>Control</b>				
Overview of Control				✓
Assessing The Results of Process Improvement	✓	✓	✓	
Statistical Process Control (SPC) Overview	✓	✓	✓	✓
Rational Subgrouping		✓	✓	
Establishing Process Standards for Inputs, Process and Outputs		✓	✓	
Developing a Process Control Plan	✓	✓	✓	✓
Documenting the Process	✓	✓	✓	✓
Statistical Software Training		✓	✓	
Questions to Ensure a Successful Control Phase				✓
Control Phase Review	✓	✓	✓	