



CI360 Green Belt Body of Knowledge (BOK)

Module	Lesson	Topic	Remember	Understand	Apply	Analyze	Evaluate	Create
Lean Six Sigma Enterprise	What is Lean?	Philosophy/History of Lean		x				
		Lean Overview		x				
		Principles of Lean				x		
		8 Types of Waste (DOWNTIME)				x		
		Value Added Activities				x		
	What is Six Sigma?	Six Sigma Overview		x				
		Philosophy/History Six Sigma		x				
		Y=f(x)		x				
		DMAIC		x				
	Business Performance Measures	Business Drivers		x				
		Key Process Indicators (KPI)		x				
		Balanced Scorecard		x				
		Project Selection Process		x				
	Lean Six Sigma Enterprise View	Benefit to Organizations		x				
		Link to Organizational Goals		x				
Fusion of Lean Six Sigma			x					
Lean vs. Six Sigma vs. Others			x					
DEFINE	Stakeholder Awareness	Process Elements				x		
		Owners and Stakeholders			x			
		Identifying Customers			x			
		SIPOC				x		
		Voice of the Customer (VOC)				x		
		Collecting Customer Data			x			
		Analyzing Customer Data			x			
		Translating Customer Requirements			x			
	Initiating a Lean Six Sigma Project	Project Charter				x		
		Problem/Opportunity Statement				x		
		Project Scope				x		
	Project Metrics	Establishing Key Project Metrics				x		
		Benchmarking		x				
		Best Practices		x				
		Primary Metrics			x			
Secondary Metrics				x				
Project Planning Tools	Consequential Metrics					x		
	Gantt Charts			x				
	Critical Path Method (CPM)			x				
Project Documentation	Program Evaluation and Review Technique (PERT)			x				
	Critical Input			x				
	When to Report Out			x				
Risk Analysis and Mitigation	Selecting the Proper Presentation Mode			x				
	Project Risk Analysis		x					
	Failure Modes Effects Analysis (FMEA)			x				
Tools for Managing and Planning	Design vs Process FMEA			x				
	Affinity Diagrams			x				
	Interrelationship Digraphs			x				
	Tree Diagram			x				
	Prioritization Matrices			x				
	Matrix Diagrams			x				
	Process Decision Program Charts (PDPC)			x				
	Activity Network Diagrams			x				
Process Performance	Defects Per Unit (DPU)				x			
	Rolled Thruput Yield				x			
	Cost of Poor Quality (COPQ)				x			
	DPMO				x			
	Sigma Levels				x			
Working with Teams	Process Capability Indices				x			
	Team Evolution		x					
	Negative Team Dynamics			x				
Communication Techniques	Roles and Responsibilities			x				
	Planning to Communicate			x				
	Types of Communication			x				
	Active Listening			x				
		Negotiation, Persuasion and Influence			x			



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MEASURE	Process Modeling	Process Maps						X	
		Written Procedures						X	
		Work Instructions						X	
		Flowcharts						X	
	Basic Statistics	Enumerative/Descriptive Studies						X	
		Analytical/Inferential Studies						X	
		Population Parameter						X	
		Sample Statistic						X	
	Central Limit Theorem	Sampling Distribution of the Mean		X					
		Inferential Statistics for Confidence Intervals		X					
		Inferential Statistics for Control Charts		X					
	Basic Probability Concepts	Independence			X				
		Mutual Exclusivity			X				
		Multiplication Rules			X				
	Descriptive Statistics	Dispersion						X	
		Central Limit Theorem						X	
		Frequency Distribution						X	
		Cumulative Frequency Distributions						X	
	Measurement System Analysis (MSA)	Gauge Repeatability and Reproducibility Studies (GR&R)						X	
		Measurement Correlation						X	
		Bias						X	
		Linearity						X	
		Percent Agreement						X	
		Precision/Tolerance						X	
	Measurement Scales	Continuous/Variables Data				X			
		Discrete/Attributes Data				X			
		Nominal Measurement Scale				X			
		Ordinal Measurement Scale				X			
		Interval Measurement Scale				X			
		Ratio Measurement Scale				X			
	Data Collection Methods	Creating a Data Collection Strategy							X
		Data Collection			X				
		Coded Data			X				
		Check Sheets			X				
	Sampling Techniques	Sampling Homogeneity			X				
		Random Sampling			X				
		Stratified Sampling			X				
	Process Capability	Characteristics						X	
		Specification/Process Limits						X	
		Tolerances						X	
		Developing Sampling Plans						X	
		Capability Study Data Collection						X	
Elements to Consider							X		
More							X		
What is Capability Telling Us?						X			
Graphical Methods	Stem and Leaf Plots							X	
	Box and Whisker Plots							X	
	Run Charts							X	
	Scatter Diagrams							X	
	Pareto Charts							X	
	Histograms							X	
	Normal Probability Plots							X	
								X	
Probability Distributions	Normal Distribution		X						
	Binomial		X						
	Poisson		X						
	Chi Square Distribution		X						
	Student's t		X						
	F Distribution		X						
Interpreting Capability Studies	Stability						X		
	Normality in Capability Studies						X		
	Percent Defective						X		
Process Performance Indices	Cp						X		
	Cpk						X		
	Pp						X		
	Ppk						X		
	Cpm						X		



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ANALYZE	Short and Long Term Capability	Short Term Capability					x	
		Long Term Capability					x	
		1.5 Sigma Shift		x				
	Multi-Vari Studies	Positional Variation						x
		Cyclical Variation						x
		Temporal Variation						x
		Investigating Sources of Variation						x
	Regression Analysis	Correlation						x
		Regression						x
		Correlation Coefficient						x
		Causation						x
		Linear Regression Equation						x
		Regression Models for Estimation/Prediction						x
	Hypothesis Testing Terminology	Statistical vs. Practical Significance				x		
		Significance Level				x		
		Power				x		
		Type I and Type II Errors				x		
		Appropriate Sample Size				x		
	Hypothesis Testing	Tests for Means, Variation and Proportions					x	
		Paired Comparisons					x	
Analysis of Variance (ANOVA)						x		
Chi Square						x		
IMPROVE	Lean Tools	Kaizen			x			
		5S			x			
		SMED				x		
		Total Productive Maintenance (TPM)		x				
		Visual Factory		x				
		Continuous Flow				x		
		Pull Systems			x			
		Kanban			x			
		Standard Work			x			
		Mistake Proofing			x			
	Intro to Value Stream Mapping (VSM)		x					
	Intro to Theory of Constraints (TOC)			x				
	Brainstorming Tools	Cause and Effect Diagrams					x	
		Nominal Group Technique				x		
Multi-Voting					x			
SCAMPER					x			
Problem Solving Tools	Force Field Analysis				x			
	Brainstorming				x			
	Multi-Vari Studies					x		
Designing DOE	Relational Matrices					x		
	Independent/Dependent Variables		x					
	Factors and Levels		x					
	Response Variable		x					
Conducting DOE	Treatment		x					
	Error		x					
Interpreting DOE	Repetition and Replication		x					
	Main Effects				x			
	Interactive Effects				x			
Design for Six Sigma (DFSS)	Design for Six Sigma		x					
	DMADV (define, measure, analyze, design and validate)		x					
	Quality Function Deployment		x					
	IDOV		x					
CONTROL	Statistical Process Control (SPC)	Objective and Benefits of SPC					x	
		Rational Subgrouping		x				
		Selection of Control Charts				x		
		Analysis of Control Charts				x		
	Application of Control Charts				x			
Control Planning	Developing Control Plans				x			
	Implementing Controls				x			
	Monitoring Systems				x			



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CONTROL	Project Closure	Achieving Objectives			X			
		Project Hand-Off						X
		Document Revision						X
		Lessons Learned			X			
		Additional Opportunities			X			
		Follow Up			X			