

LEAN6SIGMAPRO – Black Belt Course Content



Topic	LEAN6SIGMAPRO	TUV SUD	IASSC	ASQ	EXEMPLAR GLOBAL	KPMG
Lean						
1.0 Introduction to Lean	✓	✓	✓	✓	✓	✓
2.0 What is Lean & Application of Lean	✓	✓	✓	✓	✓	✓
3.0 5S Before Lean	✓	✓	✓	✓	✓	✓
4.0 Types of Waste – (Videos & Simulation to Understand)	✓	✓	✓	✓	✓	✓
4.1 Different Types of Wastes	✓	✓	✓	✓	✓	✓
4.2 Causes of Waste	✓	✓	✓	✓	✓	✓
4.3 Remedies of Waste	✓	✓		✓	✓	✓
5.0 Lean Principles Introduction	✓	✓	✓	✓		✓
5.1 Identify Customers & Specify Value	✓	✓	✓	✓		✓
5.2 Value Stream Mapping	✓	✓	✓	✓		✓
5.3 Create Flow	✓	✓	✓	✓		✓
5.4 Respond to Pull	✓	✓	✓	✓		✓
5.5 Pursuit Perfection	✓	✓	✓	✓		✓
6.0 Identify Customers & Specify Value	✓	✓	✓	✓	✓	✓
6.1 Customer – Internal & External	✓	✓	✓	✓	✓	✓
6.2 Value Added & Non-Value Added (Simulation to Understand)	✓	✓	✓	✓	✓	✓
7.0 Create Value Stream Mapping (VSM) (Simulation to Understand)	✓	✓	✓	✓	✓	✓
7.1 Terminologies (CT, FTY, RTY, CO, TPT, WIP, WIQ)	✓	✓	✓	✓	✓	✓
7.2 Process Efficiency	✓	✓	✓	✓	✓	✓
7.3 Customer Takt time	✓	✓	✓	✓	✓	✓
7.4 Create VSM (Simulation to Understand)	✓	✓	✓	✓	✓	✓
8.0 Create Value Stream Design (VSD) (Simulation to Understand)	✓	✓		✓		
9.0 Create Flow & Respond to Pull (Simulation to Understand)	✓	✓				✓
9.1 Single Piece Flow (Simulation to Understand)	✓	✓		✓		✓
9.2 Single Minute of Exchange of Dies (Simulation to Understand)	✓	✓		✓		✓

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Lean						
9.3 Line Balancing (Simulation to Understand)	✓	✓		✓		✓
9.4 Kanban (Pull Production) (Simulation to Understand)	✓	✓	✓	✓		✓
9.5 Heijunka (Production Levelling) (Simulation to Understand)	✓	✓		✓		✓
9.6 Just In Time (Simulation to Understand)	✓	✓		✓		✓
10.0 Additional Lean Tools	✓	✓	✓	✓	✓	
10.1 Spaghetti Diagram	✓			✓		
10.2 Circle Diagram	✓			✓		
10.3 Total Productive Maintenance & OEE	✓	✓		✓	✓	
10.4 Andon & Visual Management	✓	✓		✓	✓	
10.5 Visual Factory	✓	✓		✓	✓	
10.6 Gemba	✓	✓		✓		
10.7 Hoshin Kanri (Policy Deployment)	✓			✓		
10.8 PDCA (Plan Do Check Act)	✓	✓		✓		
10.9 Poka-Yoke (Mistake Proofing) (Simulation to Understand)	✓	✓	✓		✓	✓
10.10 Root Cause Analysis	✓	✓		✓		✓
10.11 Standardized Work (Simulation to Understand)	✓	✓	✓	✓	✓	✓
10.12 Theory of Constraints (Introduction)	✓	✓		✓		
10.13 Lean Enterprise	✓		✓			
10.14 Lean value chain	✓			✓		

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Intro						
1.0 Introduction to Quality	✓	✓				
2.0 Quality Leaders (Juran, Deming, Shewhart, Ishikawa) (Videos to Understand)	✓	✓		✓		
3.0 Cost of Quality (COQ)	✓	✓			✓	✓
4.0 Cost of Poor Quality (COPQ) (Videos to Understand)	✓	✓	✓	✓	✓	✓
5.0 Optimum Quality Levels	✓	✓				✓
6.0 Failure Mode & Effect Analysis (FMEA)	✓	✓	✓	✓	✓	✓
6.1 Create Process FMEA (Simulation to Understand)	✓	✓	✓	✓	✓	✓
6.2 Create Design FMEA	✓		✓	✓	✓	✓
7.0 Key Performance Measures	✓	✓		✓		
7.1 Key Performance Indictors	✓	✓		✓		
7.2 Customer Satisfaction	✓	✓				
7.3 Product Differentiation	✓	✓				
7.4 Customer Loyalty Metrics	✓			✓		
7.5 Leading & Lagging Indicators	✓			✓		
7.6 Create Line of Sight	✓			✓		
8.0 Key Business Drivers & their Impact	✓	✓		✓		
8.1 Profit/Margin (Practice to Understand)	✓	✓		✓		
8.2 Market Share	✓	✓		✓		
8.3 Net Present Value (NPV)	✓			✓		
8.4 Cost Benefit Analysis (CBA)	✓	✓	✓	✓		
8.5 Hard & Soft Benefits (Practice to Understand)	✓	✓	✓	✓		
8.6 Cost avoidance & Cost reduction (Practice to Understand)	✓	✓		✓		
9.0 Organization Goals & Six Sigma	✓	✓		✓		
10.0 Balanced Score Card& Six Sigma	✓	✓		✓	✓	

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Intro						
11.0 History & Evolution of Six Sigma	✓		✓	✓		✓
12.0 Continuous Improvement (KAIZEN)	✓	✓	✓	✓		✓
13.0 Basics of Six Sigma (Simulation to Understand)	✓	✓	✓	✓		✓
14.0 Six Sigma Applications	✓		✓	✓		
15.0 Types of Six Sigma Projects	✓	✓	✓	✓	✓	✓
15.1 DMAIC	✓	✓	✓	✓	✓	✓
15.2 DFSS (DMADV/IDOV)	✓			✓		
16.0 Organization Road Blocks	✓			✓		
16.1 Organization Structure & Culture	✓			✓		
16.2 Common Causes of Six Sigma Failures	✓			✓		
16.3 Stakeholder Analysis (Six Sigma Impact)	✓	✓	✓	✓		✓
17.0 Change Management (Simulation & Videos to Understand)	✓	✓		✓		✓
17.1 Basics of Change Management	✓	✓		✓		✓
17.2 Readiness Assessment	✓	✓		✓		✓
17.3 Communication Plans to Overcome Barriers	✓	✓		✓		✓
18.0 Strategic Planning & Deployment	✓			✓		✓
18.1 Importance of Lean Six Sigma	✓			✓		✓
18.2 Hoshin Kanri (Policy Deployment) (Practice to Understand)	✓			✓		
18.3 SWOT Analysis (Practice to Understand)	✓	✓		✓		
18.4 PEST	✓	✓		✓		
18.5 Business Contingency Planning	✓			✓		
18.6 Portfolio Analysis	✓			✓		

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Intro						
19.0 Team Management (Simulation & Videos to Understand)	✓	✓		✓		✓
19.1 Team Types & Constraints	✓	✓		✓		✓
19.2 Team Roles & Responsibilities	✓	✓	✓	✓		✓
19.3 Team Member Selection Criteria	✓	✓		✓		✓
19.4 Team Success Factors	✓	✓		✓		✓
20.0 Project Team Dynamics (Simulation to Understand)	✓	✓		✓		
20.1 Forming	✓	✓		✓		
20.2 Storming	✓	✓		✓		
20.3 Norming	✓	✓		✓		
20.4 Performing	✓	✓		✓		
20.5 Adjourning	✓			✓		
20.6 Group Thinking	✓			✓		
20.7 Team Communication	✓			✓		
20.8 Resolve negative dynamics - overbearing, dominant, or reluctant participants	✓			✓		
20.9 The unquestioned acceptance of opinions as facts, groupthink, feuding, floundering, the rush to accomplishment, attribution, discounts, digressions, and tangents.	✓			✓		
21.0 Team Facilitation	✓			✓	✓	
21.1 Motivational Technique	✓			✓	✓	
21.2 Team Stages & Development	✓			✓	✓	
21.3 Team Communication	✓			✓	✓	
21.4 Team Leadership & Models	✓			✓	✓	
22.0 Team Dynamics (Simulation & Videos to Understand)	✓			✓		
22.1 Group Behavior	✓			✓		

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Intro						
22.2 Meeting Management	✓			✓		
22.3 Team Decision Making Methods	✓			✓		
23.0 Team Training (Simulation to Understand)	✓			✓		
23.1 Need Assessment	✓			✓		
23.2 Delivery	✓			✓		
23.3 Evaluation	✓			✓		
24.0 Six Sigma project impact on customer, suppliers & other stakeholders	✓			✓		

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Define						
1.0 Voice of Customer & Business(Simulation to Understand)	✓	✓	✓	✓	✓	✓
1.1 Collect Customer & Business Voices	✓	✓	✓	✓	✓	✓
1.2 Eliminate Vagueness & Ambiguity	✓	✓	✓	✓	✓	✓
1.3 VOC Clarity Table	✓	✓	✓	✓	✓	✓
2.0 Kano Model (Practice to Understand)	✓	✓		✓	✓	✓
3.0 Benchmarking	✓	✓		✓	✓	
3.1 Competitive	✓	✓		✓	✓	
3.2 Collaborative	✓	✓		✓	✓	
3.3 Best Practices	✓	✓		✓	✓	
4.0 Customer Requirements to Process Requirements	✓	✓	✓	✓	✓	✓
4.1 Critical to X (X-Quality, Cost, Safety or any other)	✓	✓	✓	✓	✓	✓
4.2 CTQ Drill Down	✓	✓	✓	✓	✓	✓

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Define						
4.3 Quality Function Deployment (Practice to Understand)	✓	✓		✓	✓	✓
5.0 Project Section (Practice to Understand)	✓	✓		✓	✓	✓
6.0 Process Owners & Stakeholder Analysis	✓	✓	✓	✓	✓	✓
7.0 Project Charter (Practice to Understand)	✓	✓	✓	✓	✓	✓
7.1 Business Case	✓	✓	✓	✓	✓	✓
7.2 Problem Statement	✓	✓	✓	✓	✓	✓
7.3 Project Goal Statement	✓	✓	✓	✓	✓	✓
7.4 Project Team	✓	✓	✓	✓	✓	✓
7.5 Project Timeline	✓	✓	✓	✓	✓	✓
7.6 Project Scope	✓	✓	✓	✓	✓	✓
7.7 Expected Benefits	✓	✓	✓	✓	✓	✓
8.0 Financial Evaluation	✓	✓		✓	✓	✓
9.0 Develop Project Metrics	✓	✓	✓	✓	✓	
10.0 Project Short & Long Terms Gain (Practice to Understand)	✓	✓			✓	
11.0 Project Risk Analysis	✓			✓	✓	
12.0 Six Sigma Project Types	✓			✓		
13.0 Project Roles & Responsibilities	✓	✓	✓	✓		✓
13.1 Roles of Executive Leadership	✓	✓	✓	✓		✓
13.2 Roles of Champion	✓	✓	✓	✓		✓
13.3 Roles of Sponsor	✓	✓	✓	✓		✓
13.4 Roles of Master Black Belt	✓	✓	✓	✓		✓
13.5 Roles of Black Belt	✓	✓	✓	✓		✓
13.6 Roles of Green Belt & Team	✓	✓	✓	✓		✓

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Define						
14.0 Project Managements & Analytical tools	✓	✓		✓	✓	
14.1 Gantt charts	✓	✓		✓	✓	
14.2 Work Breakdown Structure	✓	✓		✓		
14.3 Critical Path Method (CPM) (Simulation to Understand)	✓	✓				
14.4 Project Evaluation & Review Technique	✓	✓				
14.5 RACI model	✓	✓		✓	✓	
14.6 Activity Network Diagram	✓	✓		✓		
14.7 Tree Diagram	✓	✓		✓	✓	
14.8 Matrix Diagram	✓	✓		✓	✓	
14.9 Interrelationship Diagram	✓	✓		✓		
14.10 Process Decision Program Chart (PDPC)	✓	✓		✓		
14.11 Project Documentation	✓	✓	✓	✓	✓	✓
15.0 Project Scope	✓	✓	✓	✓	✓	✓
16.0 SIPOC & Process Mapping (Simulation to Understand)	✓	✓	✓	✓	✓	✓
17.0 Project Performance Measurement	✓	✓		✓		
17.1 Define Performance Measurement	✓	✓		✓		
17.2 Process Critical Elements	✓	✓		✓		
17.3 Key Outputs (CSAT, Revenue, Delivery, Schedule)	✓			✓		
18.0 Project Tool Gate Review	✓	✓		✓		✓

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Measure						
1.0 Process Analysis & Documentation	✓	✓	✓	✓	✓	✓
1.1 Process Flow Charts	✓	✓	✓	✓	✓	✓
1.2 Work Instructions & Gap Analysis	✓			✓		
2.0 Types of Data & Measurement Scale (Practice to Understand)	✓	✓	✓	✓	✓	✓
2.1 Continuous (Variable) Data	✓	✓	✓	✓	✓	✓
2.2 Discrete (Attribute) Data	✓	✓	✓	✓	✓	✓
2.3 Nominal Data	✓	✓		✓		✓
2.4 Ordinal Data	✓	✓		✓		✓
2.5 Interval Measurement	✓	✓		✓		✓
2.6 Ratio Measurement	✓	✓		✓		✓
3.0 Population & Sampling	✓	✓	✓	✓	✓	✓
3.1 Basics of Sampling	✓	✓	✓	✓	✓	✓
3.2 Calculate Sample size(Practice to Understand)	✓	✓	✓	✓	✓	✓
4.0 Type of Samples(Simulation to Understand)	✓	✓	✓	✓	✓	✓
4.1 Random Sample	✓	✓	✓	✓	✓	✓
4.2 Systematic Sample	✓	✓	✓	✓	✓	✓
4.3 Stratified Sample	✓	✓	✓	✓	✓	✓
5.0 Basics of Statistics (Simulation to Understand)	✓	✓	✓	✓	✓	✓
5.1 Central Tendency	✓	✓	✓	✓	✓	✓
5.2 Dispersion	✓	✓	✓	✓	✓	✓
5.3 Proportion	✓	✓	✓	✓	✓	✓
6.0 Introduction to Statistical Software (Minitab)	✓	✓				✓
6.1 Minitab Practice	✓	✓				✓
6.2 Descriptive Statistics	✓	✓	✓	✓	✓	✓
6.3 Inferential Statistics	✓	✓	✓	✓	✓	✓

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Measure						
7.0 Probability	✓			✓		
7.1 Basic Concepts	✓			✓		
7.2 Independence Events	✓			✓		
7.3 Mutually Exclusive Events	✓			✓		
7.4 Addition & Multiplication Rules	✓			✓		
7.5 Complimentary Probability	✓			✓		
7.6 Occurrence of events	✓			✓		
8.0 Statistical Distributions (Practice to Understand)	✓	✓	✓	✓	✓	✓
8.1 Normal	✓	✓	✓	✓	✓	✓
8.2 Binominal	✓	✓	✓	✓	✓	✓
8.3 Poisson	✓	✓	✓	✓	✓	✓
8.4 Chi-Square	✓	✓	✓	✓	✓	✓
8.5 Student's T	✓	✓	✓	✓	✓	✓
8.6 F distribution	✓	✓	✓	✓	✓	✓
8.7 Hypergeometric	✓			✓		
8.8 Bivariate	✓			✓		
8.9 Exponential	✓			✓		
8.10 Lognormal	✓			✓		
8.11 Weibull	✓			✓	✓	
9.0 Probability of Distributions (Practice to Understand)	✓	✓	✓	✓		✓
9.1 Frequency Distribution	✓	✓	✓	✓		✓
9.2 Cumulative Frequency Distribution	✓	✓	✓	✓		✓
9.3 Inverse Cumulative Frequency Distribution	✓	✓	✓	✓		✓
10.0 Central Limit Theorem (Simulation to Understand)	✓	✓	✓	✓		✓

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Measure						
11.0 Measurement & Data Collection	✓	✓	✓	✓	✓	✓
11.1 What is Measurement	✓	✓			✓	✓
11.2 Operation Definition	✓	✓			✓	✓
12.0 Data Collection Plan (Simulation to Understand)	✓	✓	✓	✓	✓	✓
12.1 Check Sheets	✓	✓	✓	✓	✓	✓
12.2 Data Coding	✓			✓	✓	
12.3 Data Cleaning	✓			✓	✓	
12.4 Data Collection Pitfalls	✓			✓	✓	
12.5 Avoid Data Collection Pitfalls	✓			✓	✓	
12.6 Seasonality Effect on Data	✓			✓	✓	
12.7 Data Collectors Training	✓			✓	✓	
13.0 Graphical Analysis (Practice to Understand)	✓	✓	✓	✓	✓	✓
13.1 Pareto	✓	✓	✓	✓	✓	✓
13.2 Scatter Plot (X - Y Plot)	✓	✓	✓	✓	✓	✓
13.3 Box Plot	✓	✓	✓	✓	✓	✓
13.4 Histogram	✓	✓	✓	✓	✓	✓
13.5 Stem & Leaf Plots	✓	✓	✓	✓		✓
13.6 Time Series Plot	✓	✓			✓	✓
13.7 Run Chart	✓	✓			✓	✓
13.8 Normality (using Minitab)	✓	✓	✓	✓	✓	✓
13.9 Graphical Summary	✓	✓	✓	✓	✓	✓
14.0 Metrology	✓			✓		
14.1 Elements of Metrology	✓			✓		
14.2 Calibration System	✓			✓		
14.3 Traceability & Reference Standards	✓			✓		

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Measure						
14.4 Control & Integrity of Standards	✓			✓		
15.0 Variations & Measurement System Analysis	✓	✓	✓	✓	✓	✓
15.1 Understanding Variations (Simulation to Understand)	✓	✓	✓	✓	✓	✓
15.2 Measurement System Analysis (MSA)	✓	✓	✓	✓	✓	✓
15.2.1 Discrimination	✓	✓	✓	✓	✓	✓
15.2.2 Accuracy (includes Linearity & Bias)	✓	✓	✓	✓	✓	✓
15.2.3 Precision	✓	✓	✓	✓	✓	✓
15.2.4 Stability	✓	✓	✓	✓	✓	✓
15.2.5 Percent Agreement	✓			✓		
15.3 GRR for Continuous data (Simulation to Understand)	✓	✓	✓	✓	✓	✓
15.4 GRR for Discrete Data (Simulation to Understand)	✓	✓	✓	✓	✓	✓
15.5 Control Charts & Stability (Simulation to Understand)	✓	✓	✓	✓	✓	✓
16.0 Measurement Systems to	✓			✓		
16.1 Sales & Marketing	✓			✓		
16.2 Engineering	✓			✓		
16.3 Supply chain & Management	✓			✓		
16.4 Research & Development	✓			✓		
16.5 Customer Satisfaction	✓			✓		
17.0 Baseline Process Performance (Practice to Understand)	✓	✓	✓	✓	✓	✓
17.1 Baseline Discrete Data (DPU, DPO, DPMO)	✓	✓	✓	✓	✓	✓
17.2 Baseline Continuous Data (Cp, Cpk, Pp, Ppk, Cpm)	✓	✓	✓	✓	✓	✓
17.3 Sigma Value (Short term & Long term)	✓	✓		✓	✓	✓
17.4 Sigma Shift (Short term Vs Long term)	✓	✓		✓	✓	✓

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Measure						
18.0 Process Capability in Detail (Practice to Understand)	✓	✓	✓	✓	✓	✓
18.1 Natural Process Limits & Specification Limits	✓	✓	✓	✓	✓	✓
18.2 Design & Conducting Process Capability Studies	✓	✓	✓	✓	✓	✓
18.3 Specifications, Sampling Plan, Stability & Normality	✓	✓	✓	✓	✓	✓
18.4 Capability for Normal & Non-Normal Data	✓	✓	✓	✓	✓	✓
18.5 Process Performance (PPM, DPU, DPMO)	✓	✓	✓	✓	✓	✓
18.6 Transformations (Box-Cox & Johnson transformation)	✓	✓	✓	✓		✓
18.7 Capability for Discrete Data	✓	✓	✓	✓		✓
19.0 Monitoring Techniques	✓		✓			
20.0 Reliability - MTTF, MTBF	✓				✓	

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Analyze						
1.0 Identify Potential Causes (Practice to Understand)	✓	✓	✓	✓	✓	✓
1.1 Brain Storming	✓	✓		✓	✓	✓
1.2 Affinity Diagram	✓	✓		✓	✓	✓
1.3 Cause & Effect Diagram	✓	✓	✓	✓	✓	✓
1.4 Five Whys?	✓	✓		✓	✓	✓
2.0 Process Analysis	✓	✓	✓	✓	✓	✓
2.1 Value Stream Mapping (Recap from Lean)	✓	✓	✓	✓	✓	✓
3.0 Data Analysis	✓	✓	✓	✓	✓	✓
4.0 Normal Curve & Normality Test(Practice to Understand)	✓	✓	✓	✓	✓	✓

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Analyze						
5.0 Confidence Interval, Risk & P value	✓	✓	✓	✓	✓	✓
6.0 Hypothesis Testing -Null & Alternate	✓	✓	✓	✓	✓	✓
6.1 Significance of Confidence Level	✓	✓	✓	✓	✓	✓
6.2 Significance of Power	✓			✓	✓	
6.3 Statistical & Practical Significance	✓	✓	✓	✓	✓	✓
6.4 Sample Size for Hypothesis Tests	✓	✓	✓	✓	✓	✓
6.5 Point & Interval Estimates	✓	✓	✓	✓		
6.6 Contingency Tables	✓			✓		
7.0 Alpha & Beta Risks (Practice to Understand)	✓	✓	✓	✓	✓	✓
8.0 Hypothesis with Normal Data(Practice to Understand)	✓	✓	✓	✓	✓	✓
8.1 1 Sample T	✓	✓	✓	✓	✓	✓
8.2 2-Sample T	✓	✓	✓	✓	✓	✓
8.3 Paired T	✓	✓		✓		✓
8.4 One-Way Anova	✓	✓	✓	✓	✓	✓
8.5 Test of Variance	✓	✓	✓	✓	✓	✓
9.0 Hypothesis with Non- Normal Data(Practice to Understand)	✓	✓	✓	✓	✓	
9.1 1 Sample Sign	✓	✓	✓	✓	✓	
9.2 1 Sample Wilcoxon	✓	✓	✓	✓	✓	
9.3 Mann – Whitney	✓	✓	✓	✓	✓	
9.4 Kruskal- Wallis	✓	✓	✓	✓	✓	
9.5 Mood’s Median	✓	✓	✓		✓	
9.6 Freidman Test	✓		✓			

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Topic	LEAN6SIGMAPRO	TUV SUD	IASSC	ASQ	EXEMPLAR GLOBAL	KPMG
Analyze						
20.2 Blocks, Randomization, Effects & Replication	✓	✓	✓	✓	✓	✓
20.3 DOE Plots: Main Effect & Interaction Plots	✓	✓	✓	✓	✓	✓
20.4 Confounding	✓	✓	✓	✓		
21.0 DOE Designs	✓	✓	✓	✓	✓	✓
21.1 Full Factorial Experiments (Practice to Understand)	✓	✓	✓	✓	✓	✓
21.2 Fractional Factorial (Practice to Understand)	✓	✓	✓	✓	✓	
21.3 Latin Square Designs	✓	✓		✓		
21.4 Balanced & Orthogonal Arrays	✓	✓	✓	✓	✓	
21.5 Taguchi's Design	✓	✓		✓	✓	
22.0 Force Field Analysis	✓				✓	
23.0 Service Delivery Analysis	✓				✓	

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Topic	LEAN6SIGMAPRO	TUV SUD	IASSC	ASQ	EXEMPLAR GLOBAL	KPMG
Improve						
1.0 Generate & Evaluate Ideas (Simulations to Understand)	✓	✓	✓	✓	✓	✓
1.1 Brain Storming	✓	✓		✓	✓	
1.2 SCAMPER	✓	✓				
1.3 Benchmarking	✓	✓		✓	✓	
1.4 Lean Solutions	✓	✓	✓	✓	✓	✓
1.5 TRIZ (Introduction)	✓	✓				✓
2.0 Selecting Best Solution(Practice to Understand)	✓	✓	✓	✓	✓	✓
2.1 Multi-Voting	✓	✓	✓	✓		✓
2.2 Pay-off Matrix	✓	✓				✓
2.3 Criteria Matrix	✓	✓	✓		✓	✓
3.0 Error Proofing	✓	✓	✓	✓	✓	✓
3.1 Prevention & Detection	✓	✓	✓	✓	✓	✓
3.2 Mistake Proofing &Examples	✓	✓	✓	✓	✓	✓
4.0 Assess Risk FMEA (Recap)	✓	✓	✓	✓	✓	✓
5.0 Piloting & Implementation	✓	✓	✓	✓	✓	✓
5.1 Pilot Solutions	✓	✓	✓	✓	✓	✓
5.2 Pilot Location	✓	✓	✓	✓	✓	✓
5.3 Pilot Success Criteria	✓	✓				✓
6.0 Implementation	✓	✓	✓	✓	✓	✓
6.1 Plan for implementation	✓	✓	✓	✓	✓	✓
6.2 Stakeholder Analysis	✓	✓	✓	✓	✓	✓
6.3 Communication Plan	✓	✓	✓	✓	✓	✓
6.4 Implementation	✓	✓	✓	✓	✓	✓

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Topic	LEAN6SIGMAPRO	TUV SUD	IASSC	ASQ	EXEMPLAR GLOBAL	KPMG
Control						
1.0 What is Process Control?	✓	✓	✓	✓	✓	✓
2.0 Different Types of Process controls	✓	✓	✓	✓	✓	✓
3.0 Response Plan & Reaction Plan	✓	✓	✓			✓
4.0 Statistical Process Control (Practice to Understand)	✓	✓	✓	✓	✓	✓
4.1 Monitoring, Controlling of Process Performance	✓	✓	✓	✓	✓	✓
4.2 Identify & Select Critical Process Parameters	✓	✓	✓	✓	✓	✓
4.3 Subgrouping & Rational Subgrouping	✓	✓	✓	✓	✓	✓
4.4 SPC- Continuous Data (I-MR, X bar R, X bar S, CUSUM, EWMA, Short Run)	✓	✓	✓	✓	✓	✓
4.5 SPC – Discrete Data (C,U,P,NP charts)	✓	✓	✓	✓	✓	✓
5.0 Analyze Control Charts	✓	✓	✓	✓	✓	✓
6.0 Control Plan	✓	✓	✓	✓	✓	✓
7.0 Visual Control	✓	✓	✓	✓	✓	✓
8.0 Sustain Improvements	✓	✓	✓	✓	✓	✓
8.1 Lesson Learnt	✓	✓	✓	✓	✓	✓
8.2 Documentation	✓	✓	✓	✓	✓	✓
8.3 Trainings	✓	✓	✓	✓	✓	✓
8.4 Ongoing Evaluation	✓	✓	✓	✓	✓	✓
9.0 Benefit Computation	✓	✓	✓	✓	✓	✓
10.0 Project Closure	✓	✓	✓	✓	✓	✓
11.0 Celebration	✓	✓				

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Topic	LEAN6SIGMAPRO	TUV SUD	IASSC	ASQ	EXEMPLAR GLOBAL	KPMG
DFSS						
1.0 Common DFSS/ DMADV Methodologies	✓	✓		✓		
1.1 Define	✓	✓		✓		
1.2 Measure	✓	✓		✓		
1.3 Analyze	✓	✓		✓		
1.4 Design	✓	✓		✓		
1.5 Validate	✓	✓		✓		
2.0 Design for X (DFX)	✓			✓		
2.1 Design Constraints	✓			✓		
2.2 Design Cost	✓			✓		
2.3 Design for Manufacturability	✓			✓		
2.4 Design for Test	✓			✓		
2.5 Design for Maintainability	✓			✓		
3.0 Robust Design	✓			✓	✓	
3.1 Robust Product Design	✓			✓	✓	
3.2 Tolerance for Design	✓			✓	✓	
3.3 Statistical Tolerancing	✓			✓	✓	
3.4 Robust Process Design	✓			✓	✓	