

COURSE MODULES	SUB-MODULES
Introduction	<ul style="list-style-type: none">▪ (Lean) Six Sigma background/definition▪ Lean Six Sigma Goals▪ Concept of Six Sigma defects<ul style="list-style-type: none">○ Critical-to-quality characteristics○ Defects○ Defect opportunities▪ Efficiency optimization▪ Industry defect <i>status quo</i>▪ Process capability▪ Customer-centric approach▪ Actual ROIs for companies who use Six Sigma▪ Improvement process▪ Improvement strategies
Voice of the Customer	<ul style="list-style-type: none">▪ Process life cycle▪ Definition of VOC▪ Objectives▪ Translation of VOCs > customer needs > customer requirements▪ Listening to VOC<ul style="list-style-type: none">○ VOC assessment practices○ Identification of VOC▪ VOC examples▪ VOC 'Noise-to-meaning'▪ Customer communication▪ Business opportunity worksheet▪ Customer interviewing▪ Customer data collection<ul style="list-style-type: none">○ Customer surveying○ Scorecards▪ Analysing customer needs▪ Analysis tools

Define

- Affinity diagrams
- Kano models
- Translating needs into requirements
- Critical-to-Quality (CTQ)
 - Definition/Identification
 - CTQ Trees
- Quality Function Deployment (QFD)
- Translating customer needs into metrics
- Linking VOC and process performance
- VOC synopsis
- Phase aims/outputs breakdown
- Identifying business problem
- Project selection considerations
- Maximising financial benefits
 - What to look for
- Interviewing managers
- Operations and process reviews
- Visualizing project selection
- Aligning projects to business strategy and priorities
- Project charter
 - Components
 - Basic template design
 - Strategy and business case
 - Examples
- The Problem Statement
 - S.M.A.R.T.
 - Examples
- Objectives - rationale
- Objectives – attributes
- Deliverables definition
- Project scope
- Cost/benefit assumptions
- Constraints, risks, budgets, and costs
- Constraints – stakeholder analysis
- Stakeholder analysis – influencing strategy
- Resources analysis
- Assigning roles and responsibilities

Qualitative Measure

- Project Sponsorship/Championing
- Tollgate – phase review
- Project planning
- Definition of project
- Project initiation
- Factors which influence project failure
- Mission analysis
- Project management
- Milestones assessment
- Milestone plan
- Gantt charts
- Checkpoints – GRPI tool
 - Goals
 - Roles
 - Processes
 - Interpersonal
- Synopsis
- Phase aims/outputs
- Understanding processes
 - Process definition
 - End-to-end view
 - Perception and reality of processes
 - Characteristics of poor processes
 - Hand-offs
 - Non-value-added activities and rework
- Visualising processes
 - Requirements
 - Tools and techniques
 - SIPOC model
 - Process mapping
 - Deployment charts
 - Moments of Truth
 - Workflow diagrams and analysis
 - Concentration diagrams
- Lean and value analysis
 - Lean concept
 - Value analysis
 - Lean thinking – waste

**Quantitative
Measure**

- 5S
- Quality at Source
- Visual management
- Critical path analysis
- Cause and effect analysis
 - Route cause analysis
 - Fishbone diagrams - steps
 - Fishbone diagrams – benefits
 - The 5 Why's
- Synopsis
- Phase aims/outputs
- Introduction to measurement
 - Where to measure
 - Inputs, process, and output measures
 - Data types
 - Measure definition
 - Effectiveness and efficiency
 - Common process measures
- Specification limits
 - Input, process, and output measures
 - CTQ
 - Defining
 - Performance standards
- Data collection
 - Planning
 - Steps
 - Clarify objectives
 - Define measurements
 - Measurement system analysis
 - Sampling methods
- Cleaning data
 - Rationale
 - Example
 - Transforming data to make it meaningful

Analyse

- Phase aims/outputs

**Improvement
Solution
Development**

- Basic statistics and graphing
 - Display distribution of data
 - Interpreting histograms
 - Time-to-close incidents
 - Display data over time
 - Causes of variation
 - Common cause vs. Special cause variation
 - Run Charts
 - Interpreting Run Charts
 - Define Key Statistical Indicators
 - Central tendency
 - Application Service Delivery
 - Process Mean and Standard Deviation
 - Normal curve and probability areas
 - Six Sigma concept
 - Statistical indicators of distribution
 - Percentile charts / box plots
 - MINITAB
- Baselining process capability
 - DPMO definition
 - Calculating DPMO
 - Process Sigma calculation
- Verifying root causes
 - Graphical tools
 - Pareto chart
 - Data Stratification - factors
 - Standard incident cycle time
 - The Bottom Line
 - Interpreting and using scatter plots
- Synopsis
- Phase aims/outputs
- Solution development
 - Stop the Bleeding
 - Move to operating excellence
 - Generating potential solutions
 - Creativity techniques
 - Brainstorming

Improvement Implementation

- Negative brainstorming
- Brain writing
- Mind storming
- Assumption busting
- Evaluating alternative solutions
 - Affinity diagrams
 - Screening
 - Effort/benefit matrix
 - Risk assessment
 - Business appreciation
 - Criteria-based decision matrix
 - Pugh matrix
 - Cost benefit analysis
 - Process modelling
- Assess and Pilot Solution(s)
 - “Should Be” mapping
 - Failure Modes and Effects Analysis (FMEA) tool
- Solution selection
 - Prioritise: N/3
 - Grouping
 - Screening remainders against
 - Effort/benefit matrix
 - Risk assessment
- Synopsis
- Journey of process improvement
- Implementation planning
 - Implementation plan
 - FMEA
 - Error proofing
 - Change management
 - Solution components
 - Communication planning
- Piloting solutions
 - Considerations
 - Elements of pilots
 - Benefits of piloting

Control

- Preparation of pilot
- Piloting new processes
- Reviewing the pilot
- Completing the pilot
- Full scale implementation
 - Confirm ownership for Improvement
 - Visualization
 - Standard Operating Procedures
- Phase aims/outputs
- Reviewing the implementation
 - Control the gains
- Establishing process measures
 - Ongoing VOC
 - Managing customer expectations
 - Scorecards
 - Service Level Agreements (SLAs)
 - Management information and data availability
 - Process measures and dashboards
 - Typical measures in applications delivery services
 - Ongoing audit and controls
 - Statistical process control (SPC) – application
 - Interpreting control charts
 - Response plans
- Handing over to the business
 - Handover document
 - Standard Operating Procedures
 - Process management chart
 - Process documentation for handover
 - Challenges for process owner
- Closing the project
 - Elements of closure
 - Feedback meetings
 - Lessons learned
 - Review meetings
 - Closure report

Conclusion

- Change management
- 6 key actions to execute for successful change
- Assessment
- Tools for developing vision statement
- Making the vision actionable
- Communicating the vision
- Pitfalls
- Aligning organisation
 - Six aspects
 - Staffing
 - Development
 - Measures
 - Rewards
 - Communication
 - Organisational design/job structure
- Organisation analysis
- Project impact on aligning organisation
- Assess control / influence on key organisation areas
- Assess your current organisation
- Planning for integration
 - Defining performance
 - Measuring performance
 - Rewarding performance
- Sponsoring change
- Project focus assessment
- Tools for Change Management
- Establishing change