LAPT

LONDON ACADEMY OF PROFESSIONAL TRAINING

CERTIFICATE

Six Sigma Foundation Professional

LAPT — London Academy of Professional Training

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Reference MSPC-SS-01 • Management Centres

UKPRN 10067351 • Registered in England and Wales, company 4984798

6	30	150	430	60%	Lifetime
SUBJECTS	CHAPTERS	CLASSES	TOTAL MARKS	PASS MARK	VALIDITY

AT A GLANCE

REFERENCE	**MSPC-SS-01**
AWARD	**Certificate**
ASSESSMENT	**430 marks — 258 to pass (60%)**
PREREQUISITES	**None**
VALIDITY	**Lifetime**
AWARDING BODY	**LAPT — London Academy of Professional Training**

CURRICULUM

1 Change Management and Leadership

5 chapters **65 marks**

- **1 Understanding Change Management in the Six Sigma Framework**
- **2 The Role of Leadership in Implementing Change**
- **3 Organizational Culture and Resistance to Change**
- **4 Communication Strategies for Successful Change Management**
- **5 Sustaining Change and Measuring Impact in Six Sigma Projects**

2 Data Analysis Techniques

5 chapters · 30 classes **65 marks**

- **1 Understanding Data Types and Sources in Six Sigma** — 6 classes
  - 1.1 Identify Different Types of Data in Six Sigma
  - 1.2 Distinguish Between Qualitative and Quantitative Data
  - 1.3 Explore Primary and Secondary Data Sources
  - 1.4 Analyze Data Collection Methods for Quality Improvement
  - 1.5 Evaluate the Role of Data in Decision-Making Processes
  - 1.6 Apply Data Analysis Techniques to Real-World Six Sigma Projects
- **2 Descriptive Statistics in Six Sigma Analysis** — 6 classes
  - 2.1 Define Key Concepts in Descriptive Statistics
  - 2.2 Identify Measures of Central Tendency: Mean, Median, Mode
  - 2.3 Explore Measures of Dispersion: Range, Variance, Standard Deviation
  - 2.4 Utilize Frequency Distributions and Histograms for Data Visualization
  - 2.5 Apply Descriptive Statistics in Six Sigma Projects
  - 2.6 Interpret and Communicate Descriptive Data Findings Effectively
- **3 Introduction to Inferential Statistics for Decision Making** — 6 classes
  - 3.1 Understand Key Concepts of Inferential Statistics
  - 3.2 Distinguish Between Descriptive and Inferential Statistics
  - 3.3 Explore Sampling Methods for Effective Data Analysis
  - 3.4 Analyze Confidence Intervals and Their Applications
  - 3.5 Conduct Hypothesis Testing for Decision Making
  - 3.6 Apply Inferential Statistics to Real-World Scenarios
- **4 Data Visualization Techniques for Effective Communication** — 6 classes
  - 4.1 Understand the Importance of Data Visualization in Communication
  - 4.2 Identify Key Data Visualization Tools and Software
  - 4.3 Differentiate Between Types of Data Visualizations
  - 4.4 Explore Best Practices for Creating Effective Charts and Graphs
  - 4.5 Analyze Real-World Examples of Successful Data Visualization
  - 4.6 Apply Data Visualization Techniques to Present Analysis Findings
- **5 Advanced Data Analysis Methods: Regression and ANOVA** — 6 classes
  - 5.1 Explore Regression Analysis Fundamentals
  - 5.2 Implement Simple Linear Regression Techniques
  - 5.3 Analyze Multiple Linear Regression Models
  - 5.4 Understand Analysis of Variance (ANOVA) Principles
  - 5.5 Conduct One-Way ANOVA to Compare Means
  - 5.6 Apply Regression and ANOVA in Real-World Scenarios

3 Introduction to Six Sigma

5 chapters · 30 classes **65 marks**

- **1 Fundamentals of Six Sigma and Quality Management** — 6 classes
  - 1.1 Define Six Sigma and Its Importance in Quality Management
  - 1.2 Identify Key Principles and Concepts of Six Sigma
  - 1.3 Explore the DMAIC Process in Detail
  - 1.4 Understand the Role of Data in Six Sigma Methodology
  - 1.5 Analyze Real-World Examples of Six Sigma Implementation
  - 1.6 Apply Basic Six Sigma Tools for Quality Improvement
- **2 Understanding the DMAIC Methodology** — 6 classes
  - 2.1 Define the Problem: Identifying issues within the DMAIC Framework
  - 2.2 Measure Current Performance: Gathering Data for Analysis
  - 2.3 Analyze Root Causes: Tools for Identifying Underlying Problems
  - 2.4 Improve Processes: Developing Effective Solutions under DMAIC
  - 2.5 Control Implementation: Ensuring Longevity of Improvements
  - 2.6 Apply DMAIC in Real Scenarios: Case Studies and Practical Exercises
- **3 Key Six Sigma Tools and Techniques** — 6 classes
  - 3.1 Identify Key Six Sigma Tools for Process Improvement
  - 3.2 Explain the Purpose of DMAIC in Six Sigma Methodology
  - 3.3 Analyze Data Using Statistical Tools in Six Sigma
  - 3.4 Develop Process Maps to Visualize Workflows
  - 3.5 Implement Root Cause Analysis Techniques Effectively
  - 3.6 Apply Control Charts to Monitor Process Stability
- **4 The Role of Leadership in Six Sigma Implementation** — 6 classes
  - 4.1 Define Leadership's Impact on Six Sigma Success
  - 4.2 Identify Key Leadership Roles in Six Sigma Projects
  - 4.3 Analyze Leadership Styles and Their Effectiveness in Six Sigma
  - 4.4 Explore Communication Strategies for Effective Leadership in Six Sigma
  - 4.5 Develop Skills for Motivating Teams During Six Sigma Implementation
  - 4.6 Create an Action Plan for Enhancing Leadership in Six Sigma Initiatives
- **5 Measuring Success and Continuous Improvement** — 6 classes
  - 5.1 Define Key Performance Indicators for Success
  - 5.2 Identify Metrics for Continuous Improvement
  - 5.3 Analyze Data to Measure Current Performance
  - 5.4 Develop Action Plans Based on Performance Gaps
  - 5.5 Implement Strategies for Sustained Improvement
  - 5.6 Evaluate Success and Iterate for Future Gains

4 Lean Principles in Six Sigma

5 chapters · 30 classes **85 marks**

- **1 Understanding Lean Principles and Six Sigma Integration** — 6 classes
  - 1.1 Define Lean Principles and Their Importance in Six Sigma
  - 1.2 Identify Key Differences Between Lean and Six Sigma Methodologies
  - 1.3 Explore the Seven Wastes and Their Impact on Efficiency
  - 1.4 Analyze the Value Stream Mapping Process in Lean Six Sigma
  - 1.5 Apply Lean Tools to Real-World Six Sigma Projects
  - 1.6 Develop a Lean-Six Sigma Integration Plan for Continuous Improvement
- **2 Identifying Waste: The Lean Perspective** — 6 classes
  - 2.1 Define Value from the Customer's Perspective
  - 2.2 Identify Types of Waste in Processes
  - 2.3 Explore the Seven Wastes of Lean Principle
  - 2.4 Analyze Real-World Examples of Waste
  - 2.5 Evaluate the Impact of Waste on Business Performance
  - 2.6 Develop Strategies to Eliminate Waste in Your Organization
- **3 Value Stream Mapping and Analysis** — 6 classes
  - 3.1 Define Value Stream Mapping and Its Importance
  - 3.2 Identify Components of a Value Stream Map
  - 3.3 Analyze Current State Value Stream Maps
  - 3.4 Identify Waste in Value Stream Analysis
  - 3.5 Develop Future State Value Stream Maps
  - 3.6 Implement Value Stream Improvements and Measure Results
- **4 Implementing Lean Tools in Six Sigma Projects** — 6 classes
  - 4.1 Identify Key Lean Tools for Six Sigma Integration
  - 4.2 Analyze the Role of Value Stream Mapping in Lean Six Sigma
  - 4.3 Apply the 5S Methodology to Improve Workflow in Projects
  - 4.4 Utilize Kaizen for Continuous Improvement in Six Sigma Initiatives
  - 4.5 Develop Standard Operating Procedures using Lean Techniques
  - 4.6 Evaluate the Impact of Lean Tools on Six Sigma Project Outcomes
- **5 Sustaining Lean Improvements: Culture and Leadership** — 6 classes
  - 5.1 Analyze the Role of Leadership in Sustaining Lean Improvements
  - 5.2 Identify Cultural Barriers to Lean Transformation
  - 5.3 Develop Strategies for Cultivating a Lean Culture
  - 5.4 Engage Teams in Continuous Improvement Processes
  - 5.5 Measure and Assess the Impact of Lean Initiatives
  - 5.6 Create a Roadmap for Long-term Lean Sustainability

5 Process Mapping and Improvement

5 chapters · 30 classes **85 marks**

- **1 Understanding Process Mapping Fundamentals** — 6 classes
  - 1.1 Define Key Concepts of Process Mapping
  - 1.2 Identify the Elements of a Process Map
  - 1.3 Explore Different Types of Process Maps
  - 1.4 Analyze a Sample Process Map for Clarity
  - 1.5 Apply Process Mapping Techniques to a Real-World Example
  - 1.6 Evaluate Process Improvement Opportunities from Mapped Data
- **2 Tools and Techniques for Process Mapping** — 6 classes
  - 2.1 Identify Key Components of Process Mapping
  - 2.2 Explore Flowcharting Techniques for Effective Mapping
  - 2.3 Analyze Current Processes Using SIPOC Diagrams
  - 2.4 Utilize Value Stream Mapping to Identify Waste
  - 2.5 Apply Process Improvement Tools: Fishbone and 5 Whys
  - 2.6 Develop an Action Plan for Process Improvement Implementation
- **3 Identifying Process Improvements through Mapping** — 6 classes
  - 3.1 Define Key Concepts in Process Mapping
  - 3.2 Identify Process Steps and Stakeholders
  - 3.3 Create a Basic Process Map to Visualize Workflows
  - 3.4 Analyze Current Processes for Bottlenecks and Inefficiencies
  - 3.5 Develop Improvement Strategies Based on Mapping Insights
  - 3.6 Implement and Monitor Changes to Ensure Continuous Improvement
- **4 Validating and Optimizing Processes** — 6 classes
  - 4.1 Identify Process Validation Criteria
  - 4.2 Analyze Current Process Performance Metrics
  - 4.3 Develop Validation Techniques for Process Improvement
  - 4.4 Implement Process Validation Strategies
  - 4.5 Optimize Processes Using Data-Driven Insights
  - 4.6 Create an Action Plan for Continuous Process Improvement
- **5 Implementing and Sustaining Process Improvements** — 6 classes
  - 5.1 Identify Key Processes for Improvement
  - 5.2 Analyze Current Process Performance Metrics
  - 5.3 Design and Implement Effective Process Changes
  - 5.4 Develop a Sustainable Process Monitoring Plan
  - 5.5 Engage Teams for Continuous Improvement
  - 5.6 Evaluate and Adjust Process Improvements Over Time

6 Project Management for Six Sigma

5 chapters · 30 classes **65 marks**

- **1 Understanding Project Management Principles in Six Sigma** — 6 classes
  - 1.1 Define Key Project Management Terminology in Six Sigma
  - 1.2 Identify the Phases of Project Management in Six Sigma
  - 1.3 Explore the Role of Leadership in Six Sigma Projects
  - 1.4 Evaluate Project Scope and Objectives in the Context of Six Sigma
  - 1.5 Analyze Risks and Mitigation Strategies in Six Sigma Projects
  - 1.6 Apply Project Management Tools and Techniques to a Six Sigma Case Study
- **2 Defining Project Scope and Objectives for Six Sigma Initiatives** — 6 classes
  - 2.1 Identify Key Stakeholders in Six Sigma Projects
  - 2.2 Understand the Importance of Defining Project Scope
  - 2.3 Develop Clear and Measurable Project Objectives
  - 2.4 Create a Project Charter for Six Sigma Initiatives
  - 2.5 Utilize Tools for Scope Management and Definition
  - 2.6 Review and Adjust Project Scope Based on Stakeholder Feedback
- **3 Strategic Planning and Resource Allocation in Six Sigma Projects** — 6 classes
  - 3.1 Define Strategic Planning in Six Sigma Projects
  - 3.2 Identify Key Resources for Six Sigma Implementation
  - 3.3 Analyze Stakeholder Needs in Strategic Planning
  - 3.4 Develop a Resource Allocation Plan for Projects
  - 3.5 Evaluate Project Objectives Against Available Resources
  - 3.6 Implement and Monitor Resource Allocation Strategies
- **4 Risk Management and Mitigation in Six Sigma Projects** — 6 classes
  - 4.1 Identify and Assess Project Risks in Six Sigma
  - 4.2 Analyze Risk Impact and Probability for Project Success
  - 4.3 Develop Effective Risk Mitigation Strategies
  - 4.4 Implement Risk Response Plans in Six Sigma Projects
  - 4.5 Monitor and Review Risks Throughout the Project Lifecycle
  - 4.6 Communicate Risk Management Findings to Stakeholders
- **5 Evaluating Project Outcomes and Continuous Improvement in Six Sigma** — 6 classes
  - 5.1 Identify Key Metrics for Evaluating Project Outcomes
  - 5.2 Analyze Project Data for Performance Insights
  - 5.3 Compare Expected vs. Actual Project Results
  - 5.4 Conduct Root Cause Analysis for Performance Gaps
  - 5.5 Develop Action Plans for Continuous Improvement
  - 5.6 Implement Feedback Loops for Ongoing Project Evaluation