

LAPT

LONDON ACADEMY OF PROFESSIONAL TRAINING

CERTIFICATE

Six Sigma Black Belt Professional



LAPT — London Academy of Professional Training

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Reference MSPC-SS-04 • Management Centres

UKPRN 10067351 • Registered in England and Wales, company 4984798

AT A GLANCE

REFERENCE	MSPC-SS-04
AWARD	Certificate
ASSESSMENT	430 marks — 258 to pass (60%)
PREREQUISITES	None
VALIDITY	Lifetime
AWARDING BODY	LAPT — London Academy of Professional Training

CURRICULUM

1

Advanced Statistical Methods

5 chapters · 30 classes85 marks

• 1 Descriptive Statistics and Data Visualization Techniques — 6 classes

› 1.1 Define Descriptive Statistics and Its Importance in Data Analysis

› 1.2 Identify Key Measures of Central Tendency: Mean, Median, Mode

› 1.3 Calculate Measures of Dispersion: Range, Variance, and Standard Deviation

› 1.4 Explore Data Visualization Techniques: Choosing the Right Chart Type

› 1.5 Create Effective Descriptive Visualizations Using Software Tools

› 1.6 Apply Descriptive Statistics to Real-World Data Sets for Insight Generation

• 2 Probability Distributions and Their Applications in Six Sigma — 6 classes

› 2.1 Define and Explain Key Probability Concepts in Six Sigma

› 2.2 Explore Various Types of Probability Distributions

› 2.3 Apply Binomial Distribution to Quality Control Scenarios

› 2.4 Analyze Normal Distribution and Its Importance in Six Sigma

› 2.5 Utilize Poisson Distribution for Defect Rate Predictions

› 2.6 Integrate Probability Distributions into Six Sigma Problem-Solving

• 3 Inferential Statistics: Hypothesis Testing and Confidence Intervals — 6 classes

› 3.1 Define and Distinguish Between Null and Alternative Hypotheses

› 3.2 Apply the Steps of Hypothesis Testing in Real-World Scenarios

› 3.3 Calculate p-values and Understand Their Significance

› 3.4 Explore Types of Errors: Type I and Type II

› 3.5 Construct and Interpret Confidence Intervals for Population Parameters

› 3.6 Evaluate Hypothesis Testing Outcomes and Make Informed Decisions

• 4 Regression Analysis and Correlation Techniques — 6 classes

› 4.1 Understand the Basics of Regression Analysis

› 4.2 Explore Simple Linear Regression Methods

› 4.3 Analyze Multiple Linear Regression Techniques

› 4.4 Interpret Correlation Coefficients and Their Implications

› 4.5 Utilize Regression Diagnostics for Model Validation

› 4.6 Apply Regression Analysis in Real-World Scenarios

• 5 Advanced Statistical Techniques for Process Improvement — 6 classes

› 5.1 Analyze Process Variability Using Statistical Process Control

› 5.2 Apply Design of Experiments for Effective Process Optimization

› 5.3 Implement Regression Analysis for Predictive Modeling

› 5.4 Use Hypothesis Testing to Validate Process Improvements

› 5.5 Evaluate Process Performance with Control Charts

› 5.6 Integrate Advanced Statistical Methods in Six Sigma Projects

• 1 Understanding Change Management Principles — 6 classes

- › 1.1 Define Change Management and Its Importance
- › 1.2 Identify Key Principles of Change Management
- › 1.3 Examine the Change Management Lifecycle
- › 1.4 Analyze Common Change Management Models
- › 1.5 Assess Stakeholder Roles in Change Initiatives
- › 1.6 Develop a Change Management Communication Plan

• 2 The Change Management Process: Stages and Methodologies — 6 classes

- › 2.1 Define the Change Management Process: Key Concepts and Importance
- › 2.2 Identify the Stages of Change: From Awareness to Reinforcement
- › 2.3 Explore Change Management Methodologies: Pros and Cons
- › 2.4 Analyze Stakeholder Impact: Engaging and Communicating Effectively
- › 2.5 Develop a Change Management Plan: Steps and Best Practices
- › 2.6 Evaluate Change Success: Metrics and Continuous Improvement

• 3 Stakeholder Engagement and Communication Strategies — 6 classes

- › 3.1 Identify Key Stakeholders in Change Initiatives
- › 3.2 Analyze Stakeholder Needs and Expectations
- › 3.3 Develop Effective Communication Plans for Stakeholders
- › 3.4 Implement Strategies for Engaging Stakeholders During Change
- › 3.5 Measure the Impact of Communication on Stakeholder Engagement
- › 3.6 Tailor Messaging for Diverse Stakeholder Groups

• 4 Tools and Techniques for Managing Change — 6 classes

- › 4.1 Identify Key Change Management Tools
- › 4.2 Analyze Stakeholder Impact Using Change Assessment Techniques
- › 4.3 Implement Effective Communication Strategies for Change
- › 4.4 Develop a Change Management Plan Using the ADKAR Model
- › 4.5 Evaluate Change Outcomes with Performance Metrics
- › 4.6 Apply Continuous Improvement Techniques to Reinforce Change

• 5 Evaluating and Sustaining Change long-term**• 1 Understanding Leadership Styles in Six Sigma — 6 classes**

- › 1.1 Identify Key Leadership Styles in Six Sigma
- › 1.2 Analyze the Impact of Leadership Styles on Team Dynamics
- › 1.3 Compare and Contrast Transformational and Transactional Leadership
- › 1.4 Evaluate Situational Leadership in Six Sigma Projects
- › 1.5 Develop Strategies to Adapt Leadership Styles for Team Needs
- › 1.6 Apply Leadership Styles to Enhance Six Sigma Project Outcomes

• 2 Building Effective Teams in Six Sigma Projects — 6 classes

- › 2.1 Define Team Roles and Responsibilities in Six Sigma Projects
- › 2.2 Identify Key Characteristics of Effective Teams
- › 2.3 Foster Open Communication and Trust Among Team Members
- › 2.4 Apply Conflict Resolution Techniques to Enhance Team Dynamics
- › 2.5 Utilize Collaboration Tools for Team Performance Improvement
- › 2.6 Evaluate Team Success Metrics in Six Sigma Initiatives

• 3 Facilitating Communication and Collaboration — 6 classes

- › 3.1 Establishing Effective Communication Channels
- › 3.2 Understanding Team Dynamics and Roles
- › 3.3 Active Listening Techniques for Leaders
- › 3.4 Encouraging Collaborative Problem-Solving
- › 3.5 Managing Conflicts through Constructive Dialogue
- › 3.6 Evaluating Communication Strategies for Team Success

• 4 Conflict Resolution and Negotiation Skills — 6 classes

- › 4.1 Identify Key Sources of Conflict in Teams
- › 4.2 Explore Psychological Approaches to Conflict Resolution
- › 4.3 Apply Effective Communication Techniques in Negotiation
- › 4.4 Develop Strategies for Collaborative Problem Solving
- › 4.5 Role-Play Conflict Scenarios to Enhance Negotiation Skills
- › 4.6 Assess the Impact of Resolution Styles on Team Dynamics

• 5 Leading Change and Sustaining Six Sigma Culture — 6 classes

- › 5.1 Understand the Fundamentals of Change Management
- › 5.2 Identify Key Drivers for Implementing Six Sigma Culture
- › 5.3 Develop a Vision for Change within Teams
- › 5.4 Foster Open Communication to Support Change Initiatives
- › 5.5 Engage Stakeholders in Sustaining Six Sigma Practices
- › 5.6 Evaluate and Measure the Impact of Cultural Change

• 1 Fundamentals of Process Improvement Frameworks — 6 classes

- › 1.1 Define Key Process Improvement Concepts
- › 1.2 Explore the Six Sigma Methodology
- › 1.3 Identify Common Process Improvement Frameworks
- › 1.4 Analyze the DMAIC Cycle: Define, Measure, Analyze, Improve, Control
- › 1.5 Evaluate Tools for Process Mapping and Analysis
- › 1.6 Apply Process Improvement Techniques to Real-World Scenarios

• 2 Defining and Measuring Process Performance — 6 classes

- › 2.1 Identify Key Performance Indicators (KPIs) for Processes
- › 2.2 Analyze Process Inputs and Outputs Using SIPOC
- › 2.3 Establish Baseline Measurements for Current Process Performance
- › 2.4 Utilize Data Visualization Techniques to Interpret Process Performance
- › 2.5 Apply Benchmarking to Assess Relative Process Performance
- › 2.6 Develop Actionable Strategies to Enhance Process Metrics

• 3 Analyzing Process Variability and Causes — 6 classes

- › 3.1 Identify Types of Process Variability
- › 3.2 Analyze Root Causes of Variability
- › 3.3 Utilize Statistical Tools for Variability Analysis
- › 3.4 Implement Control Charts for Monitoring Variability
- › 3.5 Develop Strategies to Mitigate Variability
- › 3.6 Evaluate the Impact of Variability on Process Performance

• 4 Implementing Process Improvement Strategies — 6 classes

- › 4.1 Identify Key Process Improvement Opportunities
- › 4.2 Analyze Current Processes Using Root Cause Analysis
- › 4.3 Develop Measurable Goals for Process Improvement
- › 4.4 Select Appropriate Improvement Methodologies
- › 4.5 Implement Process Changes Effectively
- › 4.6 Monitor and Sustain Improvements Over Time

• 5 Sustaining Process Improvements and Driving Change — 6 classes

- › 5.1 Identify Key Metrics for Sustaining Process Improvements
- › 5.2 Develop Strategies for Employee Engagement in Continuous Improvement
- › 5.3 Analyze Case Studies of Successful Change Implementation
- › 5.4 Implement Tools for Monitoring Process Improvement Outcomes
- › 5.5 Foster a Culture of Continuous Improvement within Teams
- › 5.6 Evaluate and Adjust Improvement Initiatives for Long-term Success

• 1 Understanding the DMAIC Framework for Project Management — 6 classes

- › 1.1 Define the DMAIC Framework and Its Components
- › 1.2 Identify Each Phase of DMAIC: Define, Measure, Analyze, Improve, Control
- › 1.3 Implement the Define Phase: Setting Project Goals and Objectives
- › 1.4 Apply Measurement Techniques in the Measure Phase
- › 1.5 Analyze Data to Identify Root Causes in the Analyze Phase
- › 1.6 Develop and Plan Improvements in the Improve Phase

• 2 Defining Project Goals and Scope in Six Sigma Projects — 6 classes

- › 2.1 Identify Key Project Goals in Six Sigma
- › 2.2 Assess Stakeholder Needs and Expectations
- › 2.3 Establishing Clear Project Scope Boundaries
- › 2.4 Use SMART Criteria for Goal Setting
- › 2.5 Develop a Project Charter to Define Objectives
- › 2.6 Create a Scope Statement to Guide Project Success

• 3 Data Collection and Analysis Techniques for Six Sigma — 6 classes

- › 3.1 Identify Key Data Collection Methods for Six Sigma Projects
- › 3.2 Differentiate Between Qualitative and Quantitative Data
- › 3.3 Implement Surveys and Questionnaires for Data Gathering
- › 3.4 Analyze Data Using Statistical Tools and Techniques
- › 3.5 Visualize Data with Charts and Graphs for Effective Communication
- › 3.6 Evaluate Data Quality and Reliability for Six Sigma Success

• 4 Implementing Process Improvements and Change Management — 6 classes

- › 4.1 Identify Key Areas for Process Improvement
- › 4.2 Analyze Current Processes Using DMAIC Framework
- › 4.3 Develop Effective Change Management Strategies
- › 4.4 Create a Detailed Implementation Plan for Changes
- › 4.5 Monitor and Measure the Impact of Process Improvements
- › 4.6 Foster a Culture of Continuous Improvement Within Teams

• 5 Sustaining Improvements and Project Closure Best Practices — 6 classes

- › 5.1 Analyze Trends to Ensure Sustained Improvement
- › 5.2 Develop a Project Closure Checklists for Final Review
- › 5.3 Identify Key Stakeholders for Project Closure Communication
- › 5.4 Create a Transition Plan for Sustainment of Improvements
- › 5.5 Conduct a Lessons Learned Session to Capture Insights
- › 5.6 Implement Continuous Improvement Strategies Post-Project

• 1 Understanding Strategic Decision Making Frameworks — 6 classes

- › 1.1 Define Key Concepts in Strategic Decision Making
- › 1.2 Explore Various Strategic Decision Making Frameworks
- › 1.3 Analyze the Benefits and Limitations of Each Framework
- › 1.4 Identify Real-World Applications of Strategic Decision Making Frameworks
- › 1.5 Evaluate Case Studies Using Strategic Decision Making Frameworks
- › 1.6 Develop Your Own Strategic Decision Making Framework

• 2 Data-Driven Decision Making: Tools and Techniques — 6 classes

- › 2.1 Identify Key Data Sources for Strategic Decisions
- › 2.2 Analyze Data Collection Methods in Decision Making
- › 2.3 Evaluate Data Quality and Integrity for Robust Decisions
- › 2.4 Apply Statistical Tools to Interpret Data Effectively
- › 2.5 Utilize Data Visualization Techniques for Clarity
- › 2.6 Integrate Data-Driven Insights into Strategic Planning

• 3 Risk Assessment and Management in Strategy — 6 classes

- › 3.1 Identify Key Risk Factors in Strategic Decision Making
- › 3.2 Analyze Different Types of Risks in Business Strategies
- › 3.3 Evaluate the Impact of Risks on Strategic Goals
- › 3.4 Develop Risk Mitigation Strategies for Decision Makers
- › 3.5 Implement Risk Management Frameworks in Strategy
- › 3.6 Assess the Effectiveness of Risk Management Solutions

• 4 Scenario Planning and Predictive Analytics — 6 classes

- › 4.1 Understand the Fundamentals of Scenario Planning
- › 4.2 Explore the Role of Predictive Analytics in Decision Making
- › 4.3 Identify Key Factors for Effective Scenarios
- › 4.4 Analyze Real-World Scenarios Using Predictive Tools
- › 4.5 Develop Strategic Responses to Potential Scenarios
- › 4.6 Implement Scenario Planning in Your Organization

• 5 Leadership Roles in Strategic Decision Making — 6 classes

- › 5.1 Identify Key Leadership Roles in Strategic Decision Making
- › 5.2 Analyze the Impact of Leadership Styles on Decision Outcomes
- › 5.3 Evaluate Decision-Making Frameworks for Effective Leadership
- › 5.4 Explore Ethical Considerations in Strategic Leadership Decisions
- › 5.5 Develop Collaborative Decision-Making Strategies for Leaders
- › 5.6 Apply Leadership Insights to Real-World Decision-Making Scenarios