LAPT

LONDON ACADEMY OF PROFESSIONAL TRAINING

CERTIFICATE

Certificate in Lean Management

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Reference MGT-C03 • Management Centres

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4	88	624	400	60%	Lifetime
SUBJECTS	CHAPTERS	CLASSES	TOTAL MARKS	PASS MARK	VALIDITY

AT A GLANCE

REFERENCE	**MGT-C03**
AWARD	**Certificate**
ASSESSMENT	**400 marks — 240 to pass (60%)**
PREREQUISITES	**None**
VALIDITY	**Lifetime**
AWARDING BODY	**LAPT — London Academy of Professional Training**

CURRICULUM

1

Lean Principles and Philosophy

44 chapters · 264 classes **100 marks**

- **1 Foundations of Lean Principles and Philosophy** — 6 classes
  - 1.1 Define Lean: Understand Key Concepts and Terminology
  - 1.2 Explore the Origins: Historical Context of Lean Principles
  - 1.3 Identify the Core Principles: Value, Value Stream, Flow, Pull, and Perfection
  - 1.4 Analyze Waste: The 7 Types of Waste in Lean Management
  - 1.5 Examine the Role of Leadership in Lean Philosophy
  - 1.6 Apply Lean Principles: Case Studies and Real-World Examples
- **2 The Five Lean Principles: Value, Value Stream, Flow, Pull, and Perfection** — 6 classes
  - 2.1 Define Value in Lean Management
  - 2.2 Identify the Value Stream in Your Process
  - 2.3 Analyze Flow and Eliminate Waste
  - 2.4 Implement Pull Systems for Efficiency
  - 2.5 Strive for Perfection Through Continuous Improvement
  - 2.6 Integrate the Five Principles in Real-World Scenarios
- **3 Tools and Techniques for Lean Implementation** — 6 classes
  - 3.1 Identify Key Lean Tools for Process Optimization
  - 3.2 Analyze the Role of Value Stream Mapping in Lean
  - 3.3 Explore 5S Methodology for Workplace Organization
  - 3.4 Implement Kaizen for Continuous Improvement Strategies
  - 3.5 Apply Root Cause Analysis to Eliminate Waste
  - 3.6 Develop Action Plans for Effective Lean Deployment
- **4 Leading Lean Transformation: Culture and Change Management** — 6 classes
  - 4.1 Identify Essential Lean Principles for Cultural Transformation
  - 4.2 Analyze Organizational Barriers to Lean Adoption
  - 4.3 Develop Strategies for Engaging Stakeholders in Lean Change
  - 4.4 Implement Communication Techniques to Foster Lean Mindset
  - 4.5 Evaluate Metrics for Measuring Lean Culture Progress
  - 4.6 Create an Action Plan for Sustaining Lean Transformation
- **5 Advanced Lean Concepts: Lean Six Sigma and Beyond** — 6 classes
  - 5.1 Define Lean Six Sigma Principles and Methodologies
  - 5.2 Identify Key Differences Between Lean and Six Sigma
  - 5.3 Explore the DMAIC Framework for Process Improvement
  - 5.4 Apply Statistical Tools in Lean Six Sigma Projects
  - 5.5 Develop a Lean Six Sigma Project Charter
  - 5.6 Evaluate Case Studies of Successful Lean Six Sigma Implementations
- **1 Understanding Lean Metrics: Foundations and Definitions** — 6 classes
  - 1.1 Define Key Lean Metrics and Their Importance
  - 1.2 Explore the Differences Between Lead and Lag Metrics
  - 1.3 Identify Common Lean Measurement Tools and Techniques
  - 1.4 Analyze the Role of Value Stream Mapping in Lean Metrics
  - 1.5 Apply Lean Metrics to Assess Process Performance
  - 1.6 Develop a Personal Action Plan for Implementing Lean Metrics
- **2 Identifying Key Performance Indicators (KPIs) for Lean Success** — 6 classes
  - 2.1 Define Lean Success: Understanding the Role of KPIs
  - 2.2 Identify Essential Elements of Effective KPIs
  - 2.3 Evaluate Current Performance Metrics: What to Keep and What to Discard
  - 2.4 Establish SMART Criteria for KPI Development
  - 2.5 Analyze Industry Benchmarks: Setting Realistic KPI Targets
  - 2.6 Develop a KPI Dashboard: Visualizing Lean Success Metrics
- **3 Data Collection Methods for Effective Measurement** — 6 classes
  - 3.1 Explore Different Data Collection Techniques in Lean Management
  - 3.2 Identify Key Metrics for Lean Measurement Success
  - 3.3 Analyze the Role of Qualitative vs Quantitative Data
  - 3.4 Implement Surveys and Questionnaires for Data Gathering
  - 3.5 Develop Effective Observation Strategies for Data Collection
  - 3.6 Apply Collected Data to Inform Lean Management Decisions
- **4 Analyzing and Interpreting Lean Metrics** — 6 classes
  - 4.1 Define Key Lean Metrics for Effective Measurement
  - 4.2 Collecting and Organizing Lean Data Effectively
  - 4.3 Analyzing Lean Metrics to Identify Waste
- **4 Developing and Implementing a Change Management Strategy** — 6 classes
  - 4.1 Analyze Current Organizational Readiness for Change
  - 4.2 Identify Key Stakeholders and Their Roles in Change Initiatives
  - 4.3 Develop a Comprehensive Change Management Plan
  - 4.4 Communicate the Change Vision Effectively to the Team
  - 4.5 Implement Change Strategies Using Lean Principles
  - 4.6 Evaluate Change Outcomes and Adapt Strategies Accordingly
- **5 Measuring and Sustaining Change in Lean Operations** — 6 classes
  - 5.1 Define Key Metrics for Measuring Change in Lean Operations
  - 5.2 Analyze Data Collection Methods for Lean Change Management
  - 5.3 Evaluate the Impact of Change Using Lean Performance Metrics
  - 5.4 Develop Strategies for Sustaining Change in Lean Operations
  - 5.5 Implement Continuous Improvement Cycles in Lean Practices
  - 5.6 Communicate Change Effectively to Engage Stakeholders
- **1 Understanding Lean: History and Principles** — 6 classes
  - 1.1 Explore the Origins of Lean Principles
  - 1.2 Identify Key Historical Milestones in Lean Development
  - 1.3 Define Core Lean Principles and Their Importance
  - 1.4 Analyze the Role of Waste in Lean Thinking
  - 1.5 Discuss the Evolution of Lean Methodologies
  - 1.6 Apply Lean Principles to Real-World Scenarios
- **2 Identifying Waste: The Eight Types of Waste** — 6 classes
  - 2.1 Define and Understand the Eight Types of Waste
  - 2.2 Identify Overproduction and Its Impact on Efficiency
  - 2.3 Recognize Waiting Time and Strategies to Minimize It
  - 2.4 Analyze Transport Waste in Your Organization
  - 2.5 Evaluate Excess Inventory and Implement Control Measures
  - 2.6 Apply Lean Techniques to Reduce Waste in a Real-World Scenario
- **3 Value Stream Mapping: Tools for Analysis** — 6 classes
  - 3.1 Define Value Stream Mapping and Its Significance
  - 3.2 Identify Components of a Value Stream Map
  - 3.3 Analyze Current State: Creating a Value Stream Map
  - 3.4 Identify Waste in the Current State Map
  - 3.5 Design a Future State Value Stream Map
  - 3.6 Develop an Action Plan for Implementing Improvements
- **4 Lean Methodologies: Kaizen and 5S Implementation** — 6 classes
  - 4.1 Understand Kaizen: The Philosophy of Continuous Improvement
  - 4.2 Identify the Key Principles of 5S Methodology
  - 4.3 Assess Current Processes for Kaizen Opportunities
  - 4.4 Implementing the 5S System: Steps and Best Practices
  - 4.5 Engage Teams: Fostering a Culture of Kaizen
  - 4.6 Measure Success: Evaluating Kaizen and 5S Outcomes
- **5 Sustaining Lean Practices: Culture and Leadership** — 6 classes
  - 5.1 Identify Key Leadership Traits for Lean Sustainability
  - 5.2 Analyze Organizational Culture's Impact on Lean Initiatives
  - 5.3 Develop Strategies to Foster a Lean Mindset Among Teams
  - 5.4 Implement Communication Techniques for Lean Success
  - 5.5 Design a Continuous Improvement Framework for Lean Practices
  - 5.6 Evaluate and Adjust Leadership Approaches for Lean Sustainability
- **1 Understanding Lean Principles: Reducing Waste and Increasing Value** — 6 classes
  - 1.1 Define Lean Principles and Their Importance
  - 1.2 Identify Different Types of Waste in Processes
  - 1.3 Analyze the Impact of Waste on Value Creation
  - 1.4 Explore Tools for Waste Reduction
  - 1.5 Apply Lean Techniques to a Real-World Scenario
  - 1.6 Develop a Personal Action Plan for Implementing Lean Principles
- **2 Six Sigma Fundamentals: Achieving Quality Improvement** — 6 classes
  - 2.1 Define Key Six Sigma Concepts and Terminology
  - 2.2 Explore the DMAIC Framework for Process Improvement
  - 2.3 Identify and Measure Process Performance Metrics
  - 2.4 Analyze Data to Identify Root Causes of Defects
  - 2.5 Implement Solutions to Reduce Variation and Improve Quality

2 **Lean Tools: Value Stream Mapping, 5S and Kanban** 18 chapters · 120 classes **100 marks**

- **1 Understanding Lean Principles and Practices** — 6 classes
  - 1.1 Define Lean Principles and Their Importance
  - 1.2 Identify Key Lean Tools and Their Functions
  - 1.3 Explore Value Stream Mapping Techniques
  - 1.4 Analyze the Role of Waste Elimination in Lean
  - 1.5 Implement 5S Methodology in Workplace Organization
  - 1.6 Evaluate the Impact of Continuous Improvement Cycles
- **2 Mapping the Value Stream: Tools and Techniques** — 6 classes
  - 2.1 Understand Value Stream Mapping Basics
  - 2.2 Identify Key Elements of the Value Stream
  - 2.3 Analyze Current State of Value Stream
  - 2.4 Identify Waste within the Value Stream
  - 2.5 Develop Future State Value Stream Map
  - 2.6 Implement Action Plans to Optimize Value Stream
- **3 Implementing 5S for Workplace Organization** — 6 classes
  - 3.1 Define and Understand the 5S Methodology
  - 3.2 Identify Key Tools for Each Step of 5S
  - 3.3 Conduct a ‘Sort’ Audit in Your Workplace
  - 3.4 Develop a 'Set in Order' Plan for Efficient Layout
  - 3.5 Establish 'Shine' Standards for Workplace Cleaning
  - 3.6 Create a Sustaining Strategy for Ongoing 5S Success
- **4 Applying Kaizen for Continuous Improvement** — 6 classes
  - 4.1 Understand the Principles of Kaizen for Continuous Improvement
  - 4.2 Identify Areas for Improvement Using the Kaizen Approach
  - 4.3 Apply the PDCA Cycle in Kaizen Initiatives
  - 4.4 Develop a Kaizen Action Plan for Team Engagement
  - 4.5 Measure the Effectiveness of Kaizen Implementations
  - 4.6 Sustain Continuous Improvement Through Kaizen Culture
- **5 Advanced Lean Tools: Kanban and Just-In-Time** — 6 classes
  - 5.1 Understand Kanban Principles and History
  - 5.2 Identify Different Types of Kanban Systems
  - 5.3 Implementing Kanban Boards for Visual Management
  - 5.4 Explore Just-In-Time (JIT) Concepts and Benefits
  - 5.5 Analyze the Impact of JIT on Inventory Management
  - 5.6 Integrate Kanban and JIT for Streamlined Production
- **1 Understanding Value Streams: Definitions and Importance** — 6 classes
  - 1.1 Define Value Streams and Their Components
  - 1.2 Explain the Importance of Value Stream Mapping
  - 1.3 Identify Different Types of Value Streams
  - 1.4 Describe the Role of Stakeholders in Value Streams
  - 1.5 Analyze the Impact of Inefficiencies in Value Streams
  - 1.6 Create a Value Stream Map for a Simple Process
- **2 Identifying Current State: Mapping Techniques and Tools** — 6 classes
  - 2.1 Define Current State: Understanding Value Stream Mapping Basics
  - 2.2 Identify Key Elements: Components of a Value Stream Map
  - 2.3 Select Mapping Techniques: Tools for Effective Visualization
  - 2.4 Gather Data: Collecting Relevant Information for Mapping
  - 2.5 Create a Value Stream Map: Step-by-Step Mapping Process
  - 2.6 Analyze Current State: Identifying Waste and Opportunities for Improvement
- **3 Analyzing Value Stream Maps: Identifying Waste and Opportunities** — 6 classes
  - 3.1 Understand the Fundamentals of Value Stream Mapping
  - 3.2 Identify Key Components of a Value Stream Map
  - 3.3 Analyze Current State and Spot Inefficiencies
  - 3.4 Categorize Types of Waste in Value Streams
  - 3.5 Develop Future State Value Stream Improvement Strategies
  - 3.6 Create an Action Plan to Implement Improvements
- **4 Designing Future State Value Streams: Best Practices** — 6 classes
  - 4.1 Analyze Current State Value Streams
  - 4.2 Identify Value-Adding Activities in Processes
  - 4.3 Define Customer Value and Requirements
  - 4.4 Visualize Future State Value Streams
- **5 Implementing Changes: Action Plans and Performance Metrics** — 6 classes
  - 5.1 Develop Action Plans for Effective Change Implementation
  - 5.2 Identify Key Performance Metrics for Tracking Improvements
  - 5.3 Align Action Plans with Strategic Organizational Goals
  - 5.4 Engage Stakeholders in the Change Process
  - 5.5 Monitor Performance Metrics for Continuous Improvement
  - 5.6 Evaluate the Impact of Changes on Value Streams
- **1 Understanding Lean Principles and Tools** — 6 classes
  - 1.1 Identify Core Lean Principles for Process Improvement
  - 1.2 Analyze Waste Types in Business Processes
  - 1.3 Apply the 5S Methodology for Workplace Organization
  - 1.4 Utilize Value Stream Mapping to Enhance Efficiency
  - 1.5 Implement Kanban Systems for Improved Workflow
  - 1.6 Measure Success with Key Performance Indicators in Lean
- **2 Value Stream Mapping and Analysis** — 6 classes
  - 2.1 Define Value Stream Mapping and Its Importance
  - 2.2 Identify Key Components of a Value Stream Map
  - 2.3 Analyze Current State Value Streams
  - 2.4 Identify Waste in Value Streams Using Lean Principles
  - 2.5 Develop Future State Value Streams for Improvement
  - 2.6 Create a Value Stream Mapping Action Plan
- **3 The 5S Methodology for Workplace Organization** — 6 classes
  - 3.1 Define and Explain the 5S Methodology in Lean Management
  - 3.2 Identify the Five Steps of 5S: Sort, Set in Order, Shine, Standardize, Sustain
  - 3.3 Analyze the Benefits of Implementing 5S in the Workplace
  - 3.4 Conduct a 5S Audit: Assess Current Workplace Organization
  - 3.5 Develop an Action Plan for Each Step of 5S Implementation
  - 3.6 Create a 5S Sustainability Strategy for Ongoing Improvement
- **4 Kaizen: Continuous Improvement Strategies** — 6 classes
  - 4.1 Understand the Principles of Kaizen for Continuous Improvement
  - 4.2 Identify Opportunities for Kaizen in Your Workplace
  - 4.3 Implement Kaizen Practices: Tools and Techniques Overview
  - 4.4 Facilitate a Kaizen Event: Steps to Success
  - 4.5 Measure and Analyze the Impact of Kaizen Initiatives
  - 4.6 Cultivate a Kaizen Culture: Engaging Your Team in Continuous Improvement
- **5 Implementing Lean Tools in Projects** — 6 classes
  - 5.1 Identify Key Lean Tools for Project Implementation
  - 5.2 Analyze Project Constraints and Opportunities for Lean Application
  - 5.3 Develop a Lean Tool Selection Matrix for Your Project
  - 5.4 Create a Plan for Integrating Lean Tools into Project Workflow
  - 5.5 Measure and Monitor Lean Tool Effectiveness in Real-Time
  - 5.6 Iterate and Improve: Adjust Lean Tools Based on Project Feedback
- **16 Kanban and Pull Systems in Practice** — 10 classes
  - 16.1 Push Versus Pull Production
  - 16.2 Kanban Cards and Signals
  - 16.3 Two Bin and Visual Replenishment
  - 16.4 Calculating the Number of Kanbans
  - 16.5 Setting Up a Supermarket Stock Area
  - 16.6 Sequencing and Levelled Production
  - 16.7 Limiting Work in Progress
  - 16.8 Kanban Boards for Office Work
  - 16.9 Troubleshooting a Pull System
  - 16.10 Measuring Flow and Lead Time
- **17 Quick Changeover and Setup Reduction** — 10 classes
  - 17.1 Why Long Changeovers Hurt Flow
  - 17.2 Internal and External Setup Tasks
  - 17.3 Recording a Changeover on Video
  - 17.4 Converting Internal Tasks to External
  - 17.5 Standard Tools and Fixtures
  - 17.6 Parallel Tasks During Changeover
  - 17.7 Checklists for Changeover Steps
  - 17.8 Timing and Tracking Setup Times
  - 17.9 Safety During Rapid Changeovers

3

Lean Operations and Process Improvement

12 chapters · 120 classes **100 marks**

- **1 Introduction to Operations and Value Creation** — 10 classes
  - 1.1 What Operations Management Means
  - 1.2 Inputs Processes and Outputs
  - 1.3 Customers and Value
  - 1.4 Types of Operations Systems
  - 1.5 Goods Versus Services Operations
  - 1.6 Measuring Operational Performance
  - 1.7 Supply Chain Basics for Operators
  - 1.8 Roles Within an Operations Team
  - 1.9 Operations Strategy at a Glance
  - 1.10 Reading an Operations Dashboard
- **2 Lean Thinking and the Eight Wastes** — 10 classes
  - 2.1 Origins of Lean Thinking
  - 2.2 Defining Value from the Customer View
  - 2.3 Overproduction and Waiting
  - 2.4 Transport and Motion Waste
  - 2.5 Over-Processing and Defects
  - 2.6 Excess Inventory Waste
  - 2.7 Unused Talent as Waste
  - 2.8 Waste Walks in the Workplace
  - 2.9 Recording Waste Observations
  - 2.10 Ranking Waste by Impact
- **3 Process Observation and Time Study** — 10 classes
  - 3.1 Planning a Process Observation
  - 3.2 Go and See at the Workplace
  - 3.3 Recording Cycle Times Accurately
  - 3.4 Using Stopwatch and Video
  - 3.5 Work Sampling Basics
  - 3.6 Calculating Takt and Cycle Time
  - 3.7 Identifying Value Adding Steps
  - 3.8 Spotting Non-Value Adding Steps
  - 3.9 Presenting Observation Findings
  - 3.10 Respecting Staff During Observation
- **4 Workplace Organisation and Housekeeping** — 10 classes
  - 4.1 Sort Set in Order and Shine
  - 4.2 Standardise and Sustain Routines
  - 4.3 Red Tag Area Practice
  - 4.4 Marking Locations for Tools
  - 4.5 Cleaning as Inspection
  - 4.6 Housekeeping Audits and Scoring
  - 4.7 Before and After Photo Records
  - 4.8 Safety Benefits of Tidy Workplaces
  - 4.9 Involving the Team in Weekly Routines
  - 4.10 Keeping Standards Alive Over Time
- **5 Flow and Layout Improvement** — 10 classes
  - 5.1 Principles of Smooth Flow
  - 5.2 Spaghetti Diagrams of Movement
  - 5.3 Cellular Layout Basics
  - 5.4 Balancing Work Across Operators
  - 5.5 Reducing Handoffs and Queues
  - 5.6 Batch Size and Lead Time
  - 5.7 Moving Materials to the Point of Use
  - 5.8 Layout Trials on a Small Scale
  - 5.9 Ergonomics in Layout Design
  - 5.10 Measuring Gains from Layout Change
- **6 Inventory and Material Handling Control** — 10 classes
  - 6.1 Types of Inventory in a Business
  - 6.2 Stock Counting and Accuracy
  - 6.3 First In First Out Handling
  - 6.4 Reorder Points and Safety Stock
  - 6.5 Visual Stock Replenishment
  - 6.6 Storage Location Management
  - 6.7 Safe Manual Handling Practice
  - 6.8 Obsolete and Slow Moving Stock
  - 6.9 Inventory Cost and Cash Impact
  - 6.10 Reviewing Stock with Suppliers
- **7 Quality at the Source and Error Proofing** — 10 classes
  - 7.1 Cost of Defects in Operations
  - 7.2 Inspecting at the Point of Work
  - 7.3 Stop and Fix Practices
  - 7.4 Simple Mistake Proofing Devices
  - 7.5 Checklists to Prevent Errors
  - 7.6 Defect Tracking Boards
  - 7.7 First Pass Yield Measurement
  - 7.8 Containing a Defect Quickly
  - 7.9 Operator Involvement in Quality
  - 7.10 Standard Reaction Plans
- **8 Equipment Reliability and Basic Maintenance** — 10 classes
  - 8.1 Why Equipment Downtime Hurts
  - 8.2 Operator Cleaning and Inspection
  - 8.3 Daily Equipment Checklists
  - 8.4 Planned Versus Breakdown Maintenance
  - 8.5 Lubrication and Basic Care
  - 8.6 Recording Downtime Reasons
  - 8.7 Overall Equipment Effectiveness Basics
  - 8.8 Handling Minor Stoppages
  - 8.9 Spare Parts Visibility
  - 8.10 Working Safely Around Machines
- **9 Demand, Planning and Scheduling** — 10 classes
  - 9.1 Understanding Customer Demand
  - 9.2 Simple Forecasting Methods
  - 9.3 Capacity Versus Demand
  - 9.4 Production Schedules for Small Teams
  - 9.5 Levelling Workload Through the Week
  - 9.6 Handling Urgent Orders
  - 9.7 Daily Production Meetings
  - 9.8 Visual Schedule Boards
  - 9.9 Managing Backlog and Overtime
  - 9.10 Reviewing Schedule Adherence
- **10 Daily Management and Visual Performance** — 10 classes
  - 10.1 Purpose of Daily Management
  - 10.2 Choosing Meaningful Measures
  - 10.3 Building a Performance Board
  - 10.4 Short Interval Control
  - 10.5 Daily Huddles That Work
  - 10.6 Escalating Problems Quickly
  - 10.7 Tracking Actions to Closure
  - 10.8 Leader Standard Work Basics
  - 10.9 Recognising Team Results
  - 10.10 Reviewing Boards for Relevance
- **11 Small Improvement Projects and Team Problem Solving** — 10 classes
  - 11.1 Selecting an Improvement Topic
  - 11.2 Writing a Clear Problem Statement
  - 11.3 Plan Do Check Act Cycle
  - 11.4 Basic Cause Finding Tools
  - 11.5 Five Whys in Practice
  - 11.6 Brainstorming Solutions Fairly
  - 11.7 Trialling Ideas on a Small Scale
  - 11.8 Measuring Before and After
  - 11.9 Standardising the Improvement
  - 11.10 Presenting Results to Management
- **12 Sustaining Operational Improvement and Capstone** — 10 classes
  - 12.1 Building a Continuous Improvement Habit
  - 12.2 Suggestion Systems for Staff Ideas
  - 12.3 Coaching Teammates in Improvement
  - 12.4 Resistance and How to Handle It
  - 12.5 Audit Routines That Hold the Gains
  - 12.6 Linking Improvement to Customer Results
  - 12.7 Sharing Best Practice Across Teams
  - 12.8 Reporting Savings Honestly
  - 12.9 Planning the Next Improvement Cycle
  - 12.10 Capstone Improvement Walkthrough

4 **Root Cause Analysis and Problem Solving** 14 chapters · 120 classes **100 marks**

- **1 Understanding Root Cause Analysis Concepts** — 6 classes
  - 1.1 Define Root Cause Analysis and Its Importance
  - 1.2 Explore Common Root Cause Analysis Techniques
  - 1.3 Identify Key Terminology in Root Cause Analysis
  - 1.4 Analyze Case Studies Demonstrating Root Cause Analysis
  - 1.5 Apply Root Cause Analysis in Real-World Scenarios
  - 1.6 Evaluate the Effectiveness of Root Cause Analysis Strategies
- **2 Tools and Techniques for Root Cause Identification** — 6 classes
  - 2.1 Identify Key Concepts of Root Cause Analysis
  - 2.2 Explore the 5 Whys Technique for Problem Solving
  - 2.3 Apply Fishbone Diagram for Visual Analysis
  - 2.4 Utilize Pareto Chart for Prioritizing Causes
  - 2.5 Assess the Role of Failure Mode and Effects Analysis (FMEA)
  - 2.6 Develop an Action Plan Based on Root Cause Findings
- **3 Data Collection and Analysis for Root Cause Analysis** — 6 classes
  - 3.1 Identify Key Data Sources for Root Cause Analysis
  - 3.2 Design Effective Data Collection Methods
  - 3.3 Analyze Collected Data for Patterns and Trends
  - 3.4 Utilize Statistical Tools to Interpret Data
  - 3.5 Validate Data Integrity and Reliability
  - 3.6 Apply Findings to Develop Actionable Insights
- **4 Implementing Solutions and Countermeasures** — 6 classes
  - 4.1 Identify Potential Solutions for Root Causes
  - 4.2 Evaluate Solution Feasibility and Impact
  - 4.3 Design Effective Countermeasures
  - 4.4 Develop an Implementation Plan for Solutions
  - 4.5 Monitor and Adjust Solutions Post-Implementation
  - 4.6 Document Lessons Learned and Best Practices
- **5 Evaluating Effectiveness and Continuous Improvement** — 6 classes
  - 5.1 Assess Current Performance Metrics
  - 5.2 Identify Gaps in Process Effectiveness
  - 5.3 Implement Root Cause Analysis Techniques
  - 5.4 Develop Action Plans for Improvement
  - 5.5 Monitor and Measure Improvement Outcomes
  - 5.6 Foster a Culture of Continuous Improvement
- **6 Defining and Scoping a Problem** — 10 classes
  - 6.1 Recognising a Real Problem
  - 6.2 Symptoms Versus Causes
  - 6.3 Gathering Facts at the Scene
  - 6.4 Writing a Problem Statement
  - 6.5 Using Is and Is Not Analysis
  - 6.6 Sizing the Impact on Customers
  - 6.7 Setting Scope and Boundaries
  - 6.8 Forming the Problem Solving Team
  - 6.9 Assigning Roles and Timelines
  - 6.10 Opening a Problem Log
- **7 Immediate Containment and Interim Actions** — 10 classes
  - 7.1 Protecting the Customer First
  - 7.2 Stopping the Flow of Defects
  - 7.3 Sorting and Segregating Suspect Stock
  - 7.4 Tagging and Quarantine Procedures
  - 7.5 Recalling Affected Deliveries
  - 7.6 Interim Controls and Extra Checks
  - 7.7 Communicating Containment to Teams
  - 7.8 Documenting Containment Evidence
  - 7.9 Deciding When Containment Can End
  - 7.10 Safety Considerations During Containment
- **8 Five Whys and Cause Chains** — 10 classes
  - 8.1 Principles of Asking Why
  - 8.2 Preparing for a Why Session
  - 8.3 Running a Five Whys Step by Step
  - 8.4 Avoiding Blame in Why Questions
  - 8.5 Checking Each Answer with Evidence
  - 8.6 Branching Why Trees
  - 8.7 Reaching a True Root Cause
  - 8.8 Common Mistakes in Why Analysis
  - 8.9 Practising on Equipment Failures
  - 8.10 Recording Why Results
- **9 Fishbone and Cause Mapping** — 10 classes
  - 9.1 Structure of a Cause and Effect Diagram
  - 9.2 Choosing Cause Categories
  - 9.3 Brainstorming with the Team
  - 9.4 Grouping and Sorting Ideas
  - 9.5 Marking Likely Causes
  - 9.6 Testing Causes with Observation
  - 9.7 Cause Mapping a Sequence of Events
  - 9.8 Linking Causes to Evidence
  - 9.9 Using Fishbone Diagrams in Service Work
  - 9.10 Reviewing Diagrams for Gaps
- **10 Data Tools for Finding Causes** — 10 classes
  - 10.1 Choosing the Right Data Tool
  - 10.2 Check Sheets for Cause Counts
  - 10.3 Pareto Analysis to Find the Vital Few
  - 10.4 Histograms of Process Results
  - 10.5 Scatter Plots for Cause Testing
  - 10.6 Stratifying by Time and Location
  - 10.7 Comparing Good and Bad Conditions
  - 10.8 Simple Control Chart Reading
  - 10.9 Reading Trends and Cycles
  - 10.10 Telling a Story with Data
- **11 Failure Analysis for Equipment and Process** — 10 classes
  - 11.1 Types of Equipment Failure
  - 11.2 Inspecting Failed Parts Safely
  - 11.3 Preserving Evidence
  - 11.4 Timeline of Events Method
  - 11.5 Barrier and Change Analysis
  - 11.6 Human Factors and Procedure Gaps
  - 11.7 Environmental and Material Causes
  - 11.8 Comparing Similar Machines
  - 11.9 Escape Point Analysis
  - 11.10 Confirming Root Cause by Test
- **12 Corrective and Preventive Action Planning** — 10 classes
  - 12.1 Difference Between Correction and Corrective Action
  - 12.2 Writing Clear Corrective Actions
  - 12.3 Selecting Practical Solutions
  - 12.4 Weighing Cost and Benefit
  - 12.5 Assigning Owners and Deadlines
  - 12.6 Trial Runs Before Full Roll Out
  - 12.7 Updating Procedures and Training
  - 12.8 Preventive Actions Across Similar Processes
  - 12.9 Tracking Actions to Closure
  - 12.10 Management Review of Open Actions
- **13 Structured Problem Solving Reports** — 10 classes
  - 13.1 Reasons for Structured Reports
  - 13.2 Report Format Step by Step
  - 13.3 Writing Clear Technical Statements
  - 13.4 Including Evidence and Photos
  - 13.5 Describing Root Cause Plainly
  - 13.6 Summarising Actions and Results
  - 13.7 Customer Facing Problem Reports
  - 13.8 Peer Review Before Submission
  - 13.9 Presenting a Problem Report Orally
  - 13.10 Filing and Retrieving Reports
- **14 Verification, Lessons Learned and Practice** — 10 classes

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