

LAPT

LONDON ACADEMY OF PROFESSIONAL TRAINING

CERTIFICATE

ISO 14224 — Collection of Reliability and Maintenance Data

ISO Certification Programme



LAPT — London Academy of Professional Training

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Reference ENG-FSL-14224 • ISO Energy

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AT A GLANCE

REFERENCE	ENG-FSL-14224
AWARD	Certificate
ASSESSMENT	430 marks — 258 to pass (60%)
PREREQUISITES	None
VALIDITY	Lifetime
AWARDING BODY	LAPT — London Academy of Professional Training

CURRICULUM

1

Data Analysis and Interpretation

5 chapters · 30 classes 65 marks

• 1 Understanding Data Types and Sources in Maintenance — 6 classes

› 1.1 Identify Key Data Types in Maintenance

› 1.2 Differentiate Between Quantitative and Qualitative Data

› 1.3 Explore Primary vs. Secondary Data Sources

› 1.4 Assess the Importance of Data Quality in Maintenance

› 1.5 Analyze Case Studies of Data Usage in Maintenance

› 1.6 Apply Insights to Develop a Data Collection Strategy

• 2 Statistical Methods for Analyzing Maintenance Data — 6 classes

› 2.1 Understand Key Statistical Concepts for Maintenance Data

› 2.2 Explore Descriptive Statistics: Summarizing Maintenance Data

› 2.3 Apply Probability Distributions to Analyze Failure Patterns

› 2.4 Utilize Control Charts for Monitoring Maintenance Performance

› 2.5 Conduct Regression Analysis to Identify Maintenance Trends

› 2.6 Interpret and Present Findings from Maintenance Data Analysis

• 3 Interpreting Reliability Metrics and Indicators — 6 classes

› 3.1 Define Key Reliability Metrics and Their Importance

› 3.2 Analyze Common Indicators of System Reliability

› 3.3 Compare Reliability Metrics Across Different Industries

› 3.4 Interpret Data from Reliability Metrics in Maintenance Context

› 3.5 Evaluate the Impact of Reliability Indicators on Decision-Making

› 3.6 Apply Reliability Metrics to Real-World Maintenance Scenarios

• 4 Data Visualization Techniques for Maintenance Analysis — 6 classes

› 4.1 Identify Key Data for Maintenance Visualization

› 4.2 Explore Common Visualization Techniques for Maintenance Data

› 4.3 Create Effective Charts for Reliability Analysis

› 4.4 Utilize Graphs to Interpret Maintenance Trends

› 4.5 Integrate Data Visualization Tools for Enhanced Reporting

› 4.6 Present Findings Through Interactive Dashboards

• 5 Applying Predictive Analytics in Maintenance Strategies — 6 classes

› 5.1 Identify Key Predictive Analytics Concepts for Maintenance

› 5.2 Explore Common Data Sources for Predictive Maintenance Analytics

› 5.3 Analyze Historical Data to Identify Maintenance Trends

› 5.4 Apply Predictive Models to Forecast Equipment Failures

› 5.5 Evaluate the Impact of Predictive Analytics on Maintenance Strategies

› 5.6 Create an Action Plan for Implementing Predictive Maintenance Analytics

• 1 Fundamentals of Data Collection in Reliability and Maintenance — 6 classes

- › 1.1 Identify Key Concepts in Data Collection for Reliability
- › 1.2 Explore Different Data Collection Methods in Maintenance
- › 1.3 Analyse the Importance of Accuracy in Data Collection
- › 1.4 Evaluate Reliability Data Sources and Their Applications
- › 1.5 Develop a Structured Approach to Collect Maintenance Data
- › 1.6 Implement Best Practices in Data Collection for Improved Reliability

• 2 Types of Data and Data Sources in Fossil Fuel Industries — 6 classes

- › 2.1 Identify Various Types of Data Used in Fossil Fuel Industries
- › 2.2 Explore Primary Data Sources for Reliability and Maintenance
- › 2.3 Evaluate Secondary Data Sources in Fossil Fuel Operations
- › 2.4 Examine Qualitative vs. Quantitative Data in Data Collection
- › 2.5 Analyze the Impact of Data Quality on Maintenance Strategies
- › 2.6 Apply Data Collection Techniques for Real-Life Case Studies

• 3 Data Collection Methods and Techniques — 6 classes

- › 3.1 Identify Key Data Collection Techniques for Reliability Assessment
- › 3.2 Analyze Qualitative vs Quantitative Data Collection Methods
- › 3.3 Evaluate the Effectiveness of Surveys and Questionnaires
- › 3.4 Implement Observational Data Collection Practices
- › 3.5 Utilize Technology for Enhanced Data Collection
- › 3.6 Apply Best Practices for Ensuring Data Integrity and Accuracy

• 4 Data Validation and Quality Assurance Practices — 6 classes

- › 4.1 Identify Key Components of Data Validation in ISO 14224
- › 4.2 Explore Common Data Collection Techniques for Reliability Analysis
- › 4.3 Implement Quality Assurance Practices in Data Gathering
- › 4.4 Evaluate Tools and Software for Data Validation
- › 4.5 Conduct Hands-On Data Quality Assessment Activities
- › 4.6 Develop a Data Validation Plan for Maintenance Data Collection

• 5 Analyzing and Reporting Data for Improved Decision Making — 6 classes

- › 5.1 Identify Key Metrics for Data Collection
- › 5.2 Employ Data Analysis Techniques for Reliability Assessment
- › 5.3 Visualize Data Trends and Patterns Effectively
- › 5.4 Interpret Data to Support Strategic Decisions
- › 5.5 Assess the Quality of Collected Data
- › 5.6 Communicate Insights and Recommendations Clearly

• 1 Understanding ISO 14224: Framework for Reliability and Maintenance Data — 6 classes

- › 1.1 Define ISO 14224: Key Principles and Objectives
- › 1.2 Identify the Importance of Reliability and Maintenance Data
- › 1.3 Explore the Structure of the ISO 14224 Framework
- › 1.4 Analyze Data Collection Methodologies in ISO 14224
- › 1.5 Evaluate Real-World Applications of ISO 14224 Standards
- › 1.6 Develop an Action Plan for Implementing ISO 14224 in Your Organization

• 2 Identifying Reliability Strategies: Concepts and Approaches — 6 classes

- › 2.1 Analyze Key Concepts in Reliability Strategies
- › 2.2 Evaluate Different Approaches to Reliability Implementation
- › 2.3 Identify Best Practices for Data Collection in Reliability
- › 2.4 Assess the Role of Leadership in Reliability Strategy Development
- › 2.5 Develop a Framework for Implementing Reliability Strategies
- › 2.6 Create a Plan for Monitoring and Improving Reliability Initiatives

• 3 Data Collection Techniques: Tools and Methodologies — 6 classes

- › 3.1 Identify Key Data Collection Techniques for Reliability
- › 3.2 Explore Quantitative vs Qualitative Data in Maintenance
- › 3.3 Analyze the Role of Surveys in Data Collection
- › 3.4 Implement Observational Techniques for Data Gathering
- › 3.5 Utilize Software Tools for Managing Reliability Data
- › 3.6 Evaluate Methodologies for Effective Data Analysis

• 4 Analyzing Reliability Data: Metrics and Key Performance Indicators (KPIs) — 6 classes

- › 4.1 Identify Key Reliability Metrics for Analysis
- › 4.2 Evaluate the Importance of Data Collection Methods
- › 4.3 Analyze Failure Rates and Their Significance
- › 4.4 Calculate Mean Time Between Failure (MTBF) and Mean Time To Repair (MTTR)
- › 4.5 Develop Key Performance Indicators (KPIs) for Reliability
- › 4.6 Apply Reliability Data Analysis to Improve Maintenance Strategies

• 5 Implementing Reliability Strategies: Best Practices and Case Studies — 6 classes

- › 5.1 Identify Key Reliability Strategies for Effective Implementation
- › 5.2 Analyze Case Studies of Successful Reliability Strategies
- › 5.3 Develop a Framework for Implementing Reliability Practices
- › 5.4 Evaluate the Impact of Reliability Strategies on Maintenance
- › 5.5 Design a Continuous Improvement Plan for Reliability
- › 5.6 Present and Share Best Practices in Reliability Implementation

• 1 Fundamentals of ISO 14224 Standards — 6 classes

- › 1.1 Explore the Purpose of ISO 14224 Standards
- › 1.2 Identify Key Concepts and Terminology in ISO 14224
- › 1.3 Analyze the Structure of ISO 14224 Standards
- › 1.4 Discuss the Importance of Reliability and Maintenance Data
- › 1.5 Examine Roles and Responsibilities in Implementing ISO 14224
- › 1.6 Apply ISO 14224 Guidelines to Real-World Scenarios

• 2 The Importance of Reliability and Maintenance Data — 6 classes

- › 2.1 Define the Role of Reliability in Maintenance Strategies
- › 2.2 Explain the Consequences of Insufficient Data in Maintenance
- › 2.3 Identify Key Components of Reliability and Maintenance Data
- › 2.4 Analyze Case Studies Highlighting the Importance of Data
- › 2.5 Discuss Best Practices for Collecting Reliability Data
- › 2.6 Develop a Plan to Implement ISO 14224 Data Standards in Your Organization

• 3 ISO 14224 Framework and Guidelines — 6 classes

- › 3.1 Define the ISO 14224 Standard and Its Importance
- › 3.2 Explore the Key Components of the ISO 14224 Framework
- › 3.3 Identify Data Collection Techniques in Reliability and Maintenance
- › 3.4 Analyze Guidelines for Implementing ISO 14224 in Organizations
- › 3.5 Assess the Role of Leadership in ISO 14224 Compliance
- › 3.6 Develop an Action Plan for ISO 14224 Data Implementation

• 4 Data Collection Techniques and Best Practices — 6 classes

- › 4.1 Identify Key Data Types for Reliability Analysis
- › 4.2 Explore Data Collection Methods in Maintenance Contexts
- › 4.3 Assess the Role of Standardization in Data Collection
- › 4.4 Implement Best Practices for Accurate Data Gathering
- › 4.5 Analyze Data Quality Metrics in ISO 14224
- › 4.6 Create an Action Plan for Improving Data Collection Processes

• 5 Implementing ISO 14224 Standards in Projects — 6 classes

- › 5.1 Understand Key Objectives of ISO 14224 Standards
- › 5.2 Identify Key Components of Reliability and Maintenance Data
- › 5.3 Assess Current Data Collection Practices in Projects
- › 5.4 Develop a Framework for Implementing ISO 14224
- › 5.5 Create a Data Collection Plan Aligned with ISO 14224
- › 5.6 Evaluate Project Outcomes Using ISO 14224 Standards

• 1 Understanding ISO 14224 Standards and Their Importance in Reliability Data — 6 classes

- › 1.1 Explore the Fundamentals of ISO 14224 Standards
- › 1.2 Identify Key Components of Reliability Data Collection
- › 1.3 Analyze the Role of ISO 14224 in Maintenance Practices
- › 1.4 Examine Case Studies Demonstrating ISO 14224 Implementation
- › 1.5 Assess the Impact of Reliability Data on Decision-Making
- › 1.6 Develop a Plan for Integrating ISO 14224 into Improvement Initiatives

• 2 Establishing Baselines for Reliability and Maintenance Data Collection — 6 classes

- › 2.1 Define Key Concepts in Reliability and Maintenance
- › 2.2 Identify Essential Data Points for Baseline Establishment
- › 2.3 Analyze Current Data Collection Methods
- › 2.4 Establish Criteria for Effective Baselines
- › 2.5 Develop a Framework for Data Consistency and Accuracy
- › 2.6 Implement and Review Baseline Data Collection Strategies

• 3 Developing Leadership Strategies for Data-Driven Improvement Initiatives — 6 classes

- › 3.1 Define Key Leadership Attributes for Data Management
- › 3.2 Analyze the Role of Data in Driving Improvement Initiatives
- › 3.3 Create a Framework for Leadership Communication on Data Initiatives
- › 3.4 Develop Strategies to Foster a Data-Driven Culture
- › 3.5 Implement Metrics for Evaluating Leadership Effectiveness in Data Initiatives
- › 3.6 Design an Action Plan for Continuous Improvement Using Data Insights

• 4 Implementing Change: Best Practices for Engaging Stakeholders — 6 classes

- › 4.1 Identify Key Stakeholders for Improvement Initiatives
- › 4.2 Analyze Stakeholder Interests and Concerns
- › 4.3 Develop a Stakeholder Engagement Plan
- › 4.4 Communicate Change Effectively to Stakeholders
- › 4.5 Facilitate Stakeholder Feedback and Involvement
- › 4.6 Evaluate Stakeholder Engagement Outcomes

• 5 Evaluating and Sustaining Continuous Improvement in Data Collection Processes — 6 classes

- › 5.1 Assess Current Data Collection Processes
- › 5.2 Identify Key Performance Indicators for Improvement
- › 5.3 Develop Strategies for Enhancing Data Quality
- › 5.4 Engage Stakeholders in Continuous Improvement Initiatives
- › 5.5 Implement Feedback Mechanisms for Ongoing Evaluation
- › 5.6 Create a Sustainability Plan for Data Collection Improvements

• 1 Introduction to Reliability Frameworks in Fossil Fuel Industry — 6 classes

- › 1.1 Define Key Concepts of Reliability Frameworks
- › 1.2 Explore the Importance of Reliability in the Fossil Fuel Industry
- › 1.3 Identify Components of Effective Reliability Frameworks
- › 1.4 Analyze ISO 14224 Standards for Data Collection
- › 1.5 Develop Strategies for Implementing Reliability Frameworks
- › 1.6 Evaluate Case Studies of Reliability Framework Application

• 2 ISO 14224 Standards for Data Collection — 6 classes

- › 2.1 Understand ISO 14224 Standards for Effective Data Collection
- › 2.2 Identify Key Components of the Reliability Framework
- › 2.3 Analyze the Importance of Accuracy in Data Collection
- › 2.4 Explore Methods for Collecting Reliability Data
- › 2.5 Implement Best Practices for Data Management in Maintenance
- › 2.6 Evaluate Case Studies on ISO 14224 Application in Industry

• 3 Analyzing Reliability Data: Techniques and Tools — 6 classes

- › 3.1 Identify Key Reliability Metrics for Data Analysis
- › 3.2 Explore Common Techniques for Reliability Data Collection
- › 3.3 Apply Statistical Methods to Analyze Reliability Data
- › 3.4 Utilize Software Tools for Reliability Data Visualization
- › 3.5 Interpret Reliability Analysis Results for Decision Making
- › 3.6 Develop an Action Plan Based on Reliability Insights

• 4 Implementing Reliability Frameworks: Strategies and Challenges — 6 classes

- › 4.1 Identify Key Components of Reliability Frameworks
- › 4.2 Analyze Strategies for Implementing Reliability Frameworks
- › 4.3 Evaluate Challenges in Reliability Framework Adoption
- › 4.4 Develop an Action Plan for Implementing Reliability Frameworks
- › 4.5 Measure Success: Metrics for Reliability Framework Effectiveness
- › 4.6 Communicate Best Practices in Reliability Framework Implementation

• 5 Continuous Improvement in Reliability Practices — 6 classes

- › 5.1 Identify Key Components of Continuous Improvement in Reliability Practices
- › 5.2 Analyze Data Collection Methods for Reliability and Maintenance
- › 5.3 Evaluate the Impact of Past Reliability Initiatives on Current Practices
- › 5.4 Develop Metrics for Measuring Continuous Improvement Efforts
- › 5.5 Implement Feedback Loops to Enhance Reliability Strategies
- › 5.6 Create an Action Plan for Future Reliability Improvements