

LAPT

LONDON ACADEMY OF PROFESSIONAL TRAINING

CERTIFICATE

ISO 14040CIR — Life Cycle Assessment Principles and Framework

ISO Certification Programme



LAPT — London Academy of Professional Training

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Reference ENV-CIR-14040CIR • ISO Environmental Sustainability

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AT A GLANCE

REFERENCE	ENV-CIR-14040CIR
AWARD	Certificate
ASSESSMENT	860 marks — 516 to pass (60%)
PREREQUISITES	None
VALIDITY	Lifetime
AWARDING BODY	LAPT — London Academy of Professional Training

CURRICULUM

1	Circular Economy Principles	0 chapters	65 marks
2	Circular Economy Principles	5 chapters · 30 classes	65 marks
• 1 Fundamentals of Circular Economy: Concepts and Definitions — 6 classes › 1.1 Define Circular Economy Concepts and Terminology › 1.2 Compare Circular Economy to Traditional Linear Economy › 1.3 Identify Key Principles of Circular Economy › 1.4 Explore Benefits and Challenges of Circular Economy Implementation › 1.5 Analyze Real-World Examples of Circular Economy Practices › 1.6 Develop Actionable Strategies for Circular Economy Adoption • 2 Life Cycle Thinking: Analyzing Environmental Impacts — 6 classes › 2.1 Define Life Cycle Thinking and Its Importance in Sustainability › 2.2 Identify Stages of Life Cycle Assessment in Environmental Impact Analysis › 2.3 Analyze Resource Input and Output at Each Life Cycle Stage › 2.4 Evaluate Environmental Impacts Using Life Cycle Thinking Frameworks › 2.5 Explore Case Studies Applying Life Cycle Assessment to Real-World Scenarios › 2.6 Implement Life Cycle Thinking Strategies in Circular Economy Practices • 3 Circular Design Strategies: Innovating for Sustainability — 6 classes › 3.1 Define Circular Design Principles for Sustainable Innovation › 3.2 Explore Material Selection Strategies for Circular Products › 3.3 Analyze the Role of User-Centered Design in Circular Economy › 3.4 Assess Lifecycle Impacts of Design Choices on Sustainability › 3.5 Implement Design for Disassembly Techniques › 3.6 Develop a Circular Design Project Proposal		• 4 Business Models for Circular Economy: Creating Value from Waste — 6 classes › 4.1 Identify Waste Streams in Business Operations › 4.2 Analyse Business Models for Circular Economy Implementation › 4.3 Design Innovative Solutions for Value Recovery from Waste › 4.4 Evaluate Environmental and Economic Benefits of Circular Practices › 4.5 Develop Strategies for Engaging Stakeholders in Circular Initiatives › 4.6 Present a Comprehensive Action Plan for Circular Business Transformation • 5 Policy and Regulatory Frameworks Supporting Circular Economy — 6 classes › 5.1 Identify Key Policies Influencing Circular Economy Development › 5.2 Examine Regulatory Frameworks Facilitating Circular Economy Practices › 5.3 Analyze the Role of Government in Promoting Circular Economy Initiatives › 5.4 Discuss International Standards Supporting Circular Economic Policies › 5.5 Evaluate Case Studies of Successful Circular Economy Policies in Action › 5.6 Design a Policy Proposal to Enhance Circular Economy Practices at Local Level	
3	Environmental Impact Assessment Techniques	0 chapters	85 marks
4	Implementation of Sustainable Strategies	0 chapters	65 marks

5

Introduction to Life Cycle Assessment

5 chapters · 6 classes

85 marks

• 1 Overview of Life Cycle Assessment (LCA) Framework — 6 classes

- › 1.1 Define Key Concepts of Life Cycle Assessment
- › 1.2 Explore the Stages of the LCA Framework
- › 1.3 Analyze the Importance of LCA in Environmental Management
- › 1.4 Identify Different Types of Life Cycle Assessment Methods
- › 1.5 Examine Tools and Software Used for Conducting LCA
- › 1.6 Apply LCA Principles to a Case Study Scenario

• 2 Definitions and Scope of LCA: Key Terminologies

• 3 Life Cycle Phases: From Cradle to Grave

• 4 Impact Assessment and Interpretation in LCA

• 5 Integrating LCA into Circular Economy Strategies

6

Introduction to Life Cycle Assessment

5 chapters · 30 classes

85 marks

• 1 Foundations of Life Cycle Assessment: Concepts and Terminology — 6 classes

- › 1.1 Define Key Concepts in Life Cycle Assessment
- › 1.2 Explore the Life Cycle Phases and Their Interconnections
- › 1.3 Identify Common Terminology Used in Life Cycle Assessment
- › 1.4 Discuss the Importance of Scope and Boundaries in LCA
- › 1.5 Analyze the Role of Life Cycle Inventory in LCA Processes
- › 1.6 Apply Terminology and Concepts to Case Studies in LCA

• 2 The Life Cycle Stages: From Cradle to Grave — 6 classes

- › 2.1 Identify the Phases of a Product Life Cycle
- › 2.2 Explore the 'Cradle' Stage: Raw Material Extraction
- › 2.3 Analyze the 'Gate' Stage: Manufacturing Processes
- › 2.4 Examine the 'Use' Stage: Product Consumption and Impact
- › 2.5 Understand the 'Grave' Stage: Waste Management and Disposal
- › 2.6 Implement Life Cycle Thinking in Environmental Decision-Making

• 3 Life Cycle Impact Assessment: Methodologies and Techniques — 6 classes

- › 3.1 Identify the Key Concepts of Life Cycle Impact Assessment
- › 3.2 Explore Different Methodologies for Life Cycle Impact Assessment
- › 3.3 Analyze the Steps Involved in Life Cycle Impact Assessment
- › 3.4 Examine Tools and Software for Life Cycle Impact Assessment
- › 3.5 Evaluate Case Studies of Life Cycle Impact Assessments
- › 3.6 Apply Life Cycle Impact Assessment Techniques to Real-World Scenarios

• 4 Data Collection and Management for Effective LCA — 6 classes

- › 4.1 Identify Relevant Data Sources for LCA
- › 4.2 Assess Data Quality and Reliability
- › 4.3 Utilize Quantitative vs. Qualitative Data in LCA
- › 4.4 Standardize Data Collection Procedures
- › 4.5 Implement Data Management Tools for LCA
- › 4.6 Analyze and Interpret Collected Data for Decision Making

• 5 Applications of LCA in Circular Economy Strategies — 6 classes

- › 5.1 Define Life Cycle Assessment and Its Role in Circular Economy
- › 5.2 Identify Key Components of Life Cycle Assessment Framework
- › 5.3 Explore Case Studies of LCA in Sustainable Product Design
- › 5.4 Analyze the Benefits of LCA for Circular Economy Strategies
- › 5.5 Develop LCA Methodologies for Real-World Applications
- › 5.6 Evaluate the Future Trends of LCA in Circular Economy Practices

• 1 Fundamentals of Life Cycle Assessment (LCA) — 6 classes

- › 1.1 Define and Explain Life Cycle Assessment (LCA)
- › 1.2 Identify the Key Components of LCA Methodologies
- › 1.3 Explore the Importance of LCA in Sustainability
- › 1.4 Discuss the LCA Framework and Its Applications
- › 1.5 Analyze Different LCA Standards and Guidelines
- › 1.6 Apply LCA Principles to a Real-World Case Study

• 2 LCA Methodologies: Process and System Approaches — 6 classes

- › 2.1 Define Life Cycle Assessment and Its Importance in Environmental Management
- › 2.2 Explore the Key Components of Process-Based LCA Methodologies
- › 2.3 Examine System Approaches in LCA and Their Application in Sustainable Practices
- › 2.4 Compare and Contrast Process and System Approaches in LCA
- › 2.5 Analyze Case Studies Using LCA Methodologies in Different Industries
- › 2.6 Implement a Simple LCA for a Product: A Hands-On Group Activity

• 3 Life Cycle Inventory (LCI) and Impact Assessment (LCIA) — 6 classes

- › 3.1 Analyze the Role of Life Cycle Inventory in LCA
- › 3.2 Identify Key Data Sources for Life Cycle Inventory
- › 3.3 Construct a Life Cycle Inventory Dataset for Your Product
- › 3.4 Understand the Life Cycle Impact Assessment Process
- › 3.5 Evaluate Different Impact Assessment Methods
- › 3.6 Apply Life Cycle Inventory and Impact Assessment to Real-World Examples

• 4 ISO Standards and Guidelines for LCA — 6 classes

- › 4.1 Understand the Scope of ISO 14040 Standards
- › 4.2 Identify Key Principles of Life Cycle Assessment
- › 4.3 Explore Frameworks for LCA Implementation
- › 4.4 Analyze Common Methodologies for LCA Evaluation
- › 4.5 Discuss Challenges and Limitations in LCA Standards
- › 4.6 Apply ISO Guidelines to a Real-World Case Study

• 5 Applications of LCA in Circular Economy Strategies — 6 classes

- › 5.1 Evaluate the Role of LCA in Enhancing Circular Economy Strategies
- › 5.2 Identify Key LCA Methodologies Relevant to Circular Economy Applications
- › 5.3 Analyze Case Studies of LCA Utilization in Circular Economy Practices
- › 5.4 Develop LCA Models for Sustainable Product Design in Circular Economy
- › 5.5 Compare Industry Standards for LCA and Circular Economy Alignment
- › 5.6 Create a Plan to Integrate LCA into Circular Economy Initiatives

• 1 Understanding Life Cycle Assessment (LCA) Methodology — 6 classes

- › 1.1 Define Life Cycle Assessment and Its Importance
- › 1.2 Identify Key Phases of Life Cycle Assessment
- › 1.3 Explore Life Cycle Inventory: Data Collection Techniques
- › 1.4 Analyze Life Cycle Impact Assessment: Methods and Indicators
- › 1.5 Evaluate Life Cycle Interpretation: Drawing Conclusions
- › 1.6 Apply LCA Methodology Using a Practical Case Study

• 2 Setting Up an LCA: Goal and Scope Definition — 6 classes

- › 2.1 Define the Purpose of Your LCA: Establishing Clear Goals
- › 2.2 Identify Stakeholders: Engaging Relevant Parties for Support
- › 2.3 Determine the Scope: Setting Boundaries and Functional Units
- › 2.4 Choose Impact Categories: Selecting Relevant Environmental Effects
- › 2.5 Collect Preliminary Data: Gathering Initial Information for Your LCA
- › 2.6 Review and Finalize Goals and Scope: Ensuring Clarity and Focus

• 3 Inventory Analysis: Data Collection Techniques — 6 classes

- › 3.1 Identify Key Data Requirements for LCA
- › 3.2 Explore Primary Data Collection Techniques
- › 3.3 Analyze Secondary Data Sources for LCA
- › 3.4 Evaluate Data Quality and Reliability
- › 3.5 Implement Data Collection Tools and Software
- › 3.6 Synthesize Collected Data for Inventory Analysis

• 4 Impact Assessment: Evaluating Environmental Effects — 6 classes

- › 4.1 Identify Key Environmental Impact Categories in Life Cycle Assessment
- › 4.2 Understand the Methodologies for Impact Assessment
- › 4.3 Analyze Data Sources for Environmental Impact Analysis
- › 4.4 Assess Potential Environmental Effects Using LCA Tools
- › 4.5 Interpret Impact Assessment Results for Decision Making
- › 4.6 Apply Impact Assessment Findings to Mitigate Environmental Effects

• 5 LCA Tools: Application and Interpretation of Results — 6 classes

- › 5.1 Identify Key LCA Tools and Their Functions
- › 5.2 Explore Data Collection Methods for LCA
- › 5.3 Analyze LCA Results for Environmental Impact
- › 5.4 Evaluate Sensitivity Analysis in LCA Findings
- › 5.5 Compare Different LCA Software Applications
- › 5.6 Communicate LCA Results to Stakeholders Effectively

• 1 Understanding the Fundamentals of Project Management in Sustainability — 6 classes

- › 1.1 Define Sustainability in Project Management Context
- › 1.2 Identify Key Principles of Sustainable Project Management
- › 1.3 Explore the Life Cycle Assessment Methodology
- › 1.4 Analyze Stakeholder Engagement in Sustainable Projects
- › 1.5 Evaluate Tools for Measuring Project Sustainability Impact
- › 1.6 Develop a Sustainable Project Management Plan

• 2 Integrating Life Cycle Thinking into Project Management — 6 classes

- › 2.1 Define Life Cycle Thinking in Project Management
- › 2.2 Identify Key Phases of Life Cycle Assessment
- › 2.3 Analyze Sustainability Metrics in Project Phases
- › 2.4 Integrate Life Cycle Assessment into Project Planning
- › 2.5 Evaluate Environmental Impact throughout Project Lifecycle
- › 2.6 Develop Action Plans for Continuous Sustainability Improvement

• 3 Strategic Planning for Sustainable Projects — 6 classes

- › 3.1 Define Sustainability Goals for Project Initiation
- › 3.2 Assess Stakeholder Impact on Sustainable Planning
- › 3.3 Identify Key Performance Indicators for Sustainability
- › 3.4 Develop a Sustainable Project Roadmap
- › 3.5 Evaluate Risks and Opportunities in Sustainability Projects
- › 3.6 Implement Monitoring Strategies for Sustainable Outcomes

• 4 Stakeholder Engagement and Communication in Sustainable Projects — 6 classes

- › 4.1 Identify Key Stakeholders in Sustainable Projects
- › 4.2 Analyze Stakeholder Interests and Influences
- › 4.3 Develop Effective Communication Strategies for Engagement
- › 4.4 Facilitate Collaborative Decision-Making with Stakeholders
- › 4.5 Evaluate Stakeholder Feedback and Adapt Strategies
- › 4.6 Report on Stakeholder Engagement Outcomes and Lessons Learned

• 5 Measuring and Evaluating Success in Sustainability Projects — 6 classes

- › 5.1 Define Success Metrics for Sustainability Projects
- › 5.2 Identify Key Performance Indicators (KPIs) in Sustainability
- › 5.3 Utilize Life Cycle Assessment (LCA) for Project Evaluation
- › 5.4 Analyze Data Collection Methods for Sustainability Success
- › 5.5 Evaluate Stakeholder Feedback in Project Assessment
- › 5.6 Develop a Sustainability Success Report and Presentation

• 1 Understanding Stakeholder Identification in LCA Context — 6 classes

- › 1.1 Define Stakeholders in the Context of LCA
- › 1.2 Identify Key Stakeholders in Your LCA Project
- › 1.3 Analyze Stakeholder Interests and Influences
- › 1.4 Map Stakeholders Using Influence-Interest Grid
- › 1.5 Develop Effective Communication Strategies for Stakeholders
- › 1.6 Evaluate Stakeholder Engagement Outcomes in LCA

• 2 Effective Communication Strategies for Stakeholder Engagement — 6 classes

- › 2.1 Identify Key Stakeholders for Effective Engagement
- › 2.2 Analyze Stakeholder Needs and Expectations
- › 2.3 Develop Tailored Communication Messages
- › 2.4 Utilize Appropriate Communication Channels
- › 2.5 Measure the Impact of Engagement Strategies
- › 2.6 Adapt Communication Approaches Based on Feedback

• 3 Building Relationships: Trust and Collaboration with Stakeholders — 6 classes

- › 3.1 Identify Stakeholder Groups and Their Interests
- › 3.2 Assess the Impact of Stakeholder Engagement on LCA Outcomes
- › 3.3 Develop Effective Communication Strategies for Stakeholder Involvement
- › 3.4 Foster Trust through Transparency and Open Dialogue
- › 3.5 Collaborate with Stakeholders to Co-Create Sustainable Solutions
- › 3.6 Evaluate and Reflect on Stakeholder Engagement Practices for Continuous Improvement

• 4 Facilitating Stakeholder Participation in Environmental Decision-Making — 6 classes

- › 4.1 Identify Key Stakeholders in Environmental Decision-Making
- › 4.2 Analyze Stakeholder Needs and Expectations
- › 4.3 Develop Effective Communication Strategies for Engagement
- › 4.4 Employ Interactive Methods to Facilitate Stakeholder Participation
- › 4.5 Evaluate Stakeholder Feedback and Integrate Perspectives
- › 4.6 Create Action Plans Based on Stakeholder Contributions

• 5 Evaluating the Impact of Stakeholder Engagement on LCA Outcomes — 6 classes

- › 5.1 Identify Key Stakeholders in the LCA Process
- › 5.2 Assess Stakeholder Concerns and Interests
- › 5.3 Analyze the Role of Communication in Stakeholder Engagement
- › 5.4 Evaluate Methods for Gathering Stakeholder Feedback
- › 5.5 Measure the Impact of Stakeholder Engagement on LCA Outcomes
- › 5.6 Develop a Communication Strategy to Enhance LCA Engagement