

Intro to Life Cycle Assessment: Principles and Application Fundamentals

Course Overview

| Update | Subject Area | Estimated Time | Format | Language | Certification Validity |
|-----------|-------------------------------|----------------|------------|----------|------------------------|
| 28-Jun-24 | Eco-Design & Life Cycle Asses | 2 hours | Self-paced | English | No certificate |

Overview & Purpose

This introductory course provides a solid foundation in the principles and applications of Life Cycle Assessment (LCA). LCA is a powerful tool for evaluating the environmental impact of products and services throughout their entire life cycle, from raw material extraction to end-of-life disposal.

Intended Audience

Brands, retailers, vendors, manufacturers, traders

Course Objectives

- Identify the various potential environmental challenges and the key indicators used to measure a product's environmental impacts.
- Categorize different types of environmental declarations and understand their use in effective environmental communication.
- Interpret the Life Cycle Assessment framework and its application in product eco-design.
- Evaluate the environmental footprint of your products and services in accordance with the ISO 14040:2006 and ISO 14044:2006 standards.

Prerequisite

Not required.

| Module 1: Life Cycle Assessment Essentials | | Estimated Time | Delivery Method | Passing Criteria |
|--|--|----------------------------|---|------------------------------|
| Unit 1 | Navigating Impact Indicators_Part 1 | Estimated time to complete | Learning experience | Verify learner understanding |
| | <ul style="list-style-type: none"> - Outline the indicators available that represent the health of the Earth's ecosystem - Categorize indicators based on the use of abiotic resources. - Understand the significance of each indicator. | 16 min | <ul style="list-style-type: none"> - Multimedia presentation - Knowledge Checks | 100% Content Viewed |
| Unit 2 | Navigating Impact Indicators_Part 2 | | | |
| | <ul style="list-style-type: none"> - Outline the available indicators that represent the health of the environment. - Understand the causes and effects of these indicators. - Describe the impacts of human activities on the environment. - List pollution sources and assess the impact of environmental pollution on human health. | 15 min | <ul style="list-style-type: none"> - Multimedia presentation - Knowledge Checks | 100% Content Viewed |
| Unit 3 | Understanding Environmental Communication | | | |
| | <ul style="list-style-type: none"> - Identify the foundations and characteristics of each type of self-declaration - Distinguish between the environmental messaging of different types of self-declaration - Comment on the role of transparency in self-declaration | 10 min | <ul style="list-style-type: none"> - Multimedia presentation - Knowledge Checks | 100% Content Viewed |
| Unit 4 | Introduction to Life Cycle Assessment | | | |
| | <ul style="list-style-type: none"> - Understand the basic principles of LCA - Identify the main stages of an LCA study - Describe the interconnection between the four stages of LCA. | 10 min | <ul style="list-style-type: none"> - Multimedia presentation - Knowledge Checks | 100% Content Viewed |

| Module 2: Life Cycle Assessment Framework | | | | |
|--|---|--------|---|-------------------------------|
| Unit 1 | Step 1: Goal and Scope Definition | | | |
| | <ul style="list-style-type: none"> - List the process and detailed steps to identify the goals and scope of an LCA study. - Anticipate the limitations and uncertainties of the study, as well as the restraints in each step, and learn how to mitigate them. - Memorize the definition and application of functional unit, reference flow, and product system in an LCA study. | 20 min | <ul style="list-style-type: none"> - Multimedia presentation - Knowledge Checks | 100% Content Viewed |
| Unit 2 | Step 2: Breaking Down Inventory Analysis | | | |
| | <ul style="list-style-type: none"> - Define what a life cycle inventory is and its application in LCA study. - Categorize the data types and data sources to be collected for the inventory. - Comment on the implementation of cut-off criteria in LCA study. | 10 min | <ul style="list-style-type: none"> - Multimedia presentation - Knowledge Checks | 100% Content Viewed |
| Unit 3 | Step 3: Assessing Environmental Significance | | | |
| | <ul style="list-style-type: none"> - Highlight the purpose of impact assessment. - Annotate the functioning of databases and LCA software. - Explain how environmental indicators are calculated. | 10 min | <ul style="list-style-type: none"> - Multimedia presentation - Knowledge Checks | 100% Content Viewed |
| Unit 4 | Step 4: Drawing Meaningful Conclusions | | | |
| | <ul style="list-style-type: none"> - Define what an impact profile is. - Comment on the results of an LCA study. - Identify significant environmental aspects through an LCA study. | 10 min | <ul style="list-style-type: none"> - Multimedia presentation - Knowledge Checks | 100% Content Viewed |
| Module 3: Final Examination & Survey | | | | |
| Unit 1 | Final Assessment | | | |
| | | 40 min | True-False, Multiple Choice | Passing score of 80% or above |
| Unit 2 | Course Evaluation Survey | | | |
| | | 4 min | Survey Questions | Response submitted |