



## Life Cycle Assessment - distance course Livscykelanalys - distanskurs

5 credits

5 högskolepoäng

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**Ladok Code:** A508TA

**Version:** 5.0

**Established by:** Committee for Education in Technology 2018-01-24

**Valid from:** Spring 2018

**Education Cycle:** Second cycle

**Main Field of Study (Progressive Specialisation):** Resource Recovery (A1N)

**Disciplinary Domain:** Technology

**Prerequisites:** Bachelor of Science in Engineering

**Subject Area:** Environmental Science

**Grading Scale:** Fail (U) or Pass (G)

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### Content

The main goal of the course is that, from a critical perspective, the students must gain an understanding of the principles and structure of a life cycle assessment (LCA). The students must also perform an LCA. The course covers important concepts such as goal and scope, system boundaries, flow charts, functional units, allocation, inventory analysis, classification, characterisation and weighting

### Learning Outcomes

After passing the course the student will be able to:

#### Knowledge and understanding

1.1 describe strengths and weaknesses with LCA and the need for transparency in LCA reports.

#### Skill and ability

2.1 plan a LCA,

2.2 develop a flow chart for the system under study,

2.3 perform a life cycle inventory based on the inputs and outputs in the flow chart,

2.4 interpret the results of an LCA,

2.5 present, both in writing and orally, the LCA performed by the student.

#### Critical reflection and attitude

3.1 appraise the importance of transparency of LCAs and how they can be used for product development,

3.2 reflect over the limitations of LCA from a sustainable development perspective.

### Forms of Teaching

Teaching in the course consists of:

- self study
- discussions via distance meetings
- calculations

The students must also perform and present (in writing and orally via distance) a fairly large LCA that contains all important parts.

The language of instruction is English.

### Forms of Examination

The course is examined using the following:

- project (LCA)  
Goals: All goals will be tested via the home exercises  
ECTS: 5 hp  
Grades: Fail or pass

Student rights and obligations at examination are in accordance with guidelines and rules for the University of Borås.

### **Literature and Other Teaching Materials**

The course literature is in English

All compulsory material is in the university's teaching platform

Recommended:

Baumann, Henrikke & Tillman, Anne-Marie (2004). *The hitchhiker's guide to LCA: an orientation in life cycle assessment methodology and application*. Lund: Studentlitteratur

Klöpffer, Walter & Grahl, Birgit (2014). *Life Cycle Assessment (LCA) [electronic resource] : A Guide to Best Practise*. Weinheim: Wiley

### **Student Influence and Evaluation**

The course is evaluated according to the rules for course evaluation at the University of Borås, where the students' views are collected. Analysis of these views results in a course report that is published and shared with students of subsequent 'Introduction to life cycle assessment' courses. The report also forms the base for developing the course. The person responsible for the course is responsible for this evaluation.

### **Miscellaneous**

The course is not part of a program. The course is a distance course.