



# AL2608 Life Cycle Assessment

## 7.5 credits

### Livscykelanalys

This is a translation of the Swedish, legally binding, course syllabus.

If the course is discontinued, students may request to be examined during the following two academic years

### Establishment

The course syllabus is valid from Autumn 2023 according to the Head of school decision: A-2023-0461, 3.2.2. Decision date: 2023-04-11.

### Grading scale

A, B, C, D, E, FX, F

### Education cycle

Second cycle

### Main field of study

Environmental Engineering

### Specific prerequisites

Admitted to Master's Programme, Sustainable Technology (TSUTM) or Master's Programme, Environmental Engineering and Sustainable Infrastructure (TMHIM) and completed course AL1301 or equivalent knowledge in environment and sustainable development.

Others: Degree of Bachelor or Degree of Bachelor of Science in Engineering or other corresponding technical, natural or other science degree at first cycle academic education of at least 180 higher education credits or equivalent.

Courses from upper secondary school corresponding to the courses Eng B/6 according to the Swedish upper secondary school system or equivalent. Completed course AL1301 or equivalent knowledge in environment and sustainable development.

## Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

## Intended learning outcomes

The general aim of the course is to develop the student's ability to assess environmental impact of complex systems in technology and urban planning based on a life-cycle perspective by giving theoretical and practical skills in Life Cycle Assessment (LCA).

After passing the course, the students should be able to:

1. Give an account of the aim applications of the LCA method.
2. Explain the analytical phases and central concepts of the LCA method.
3. Apply the analytical phases and central concepts of the LCA method on complex systems in technology and urban planning.
4. Identify uncertainties in LCA method and data and evaluate how these influence the results.
5. Report in writing the completed LCA study according to ISO's standard for LCA.
6. Use LCA software.
7. Give an account of the results orally of the completed LCA the study.
8. Work in a collaborative project setting
9. Report in writing and give an account of a critical review orally of an LCA report.

## Course contents

The course covers:

- LCA methodology
- LCA tools and - databases
- Specialisation of life cycle impact in a specific field that the students choose independently
- Lecture from industry with examples of use of LCA for decision making

## Examination

- PRO1 - Project work, 5.0 credits, grading scale: A, B, C, D, E, FX, F

- TEN1 - Home exam, 2.5 credits, grading scale: A, B, C, D, E, FX, F

Based on recommendation from KTH's coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability.

The examiner may apply another examination format when re-examining individual students.

## **Ethical approach**

- All members of a group are responsible for the group's work.
- In any assessment, every student shall honestly disclose any help received and sources used.
- In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.