

Course Syllabus

Life Cycle Assessment and Cost Analysis 5 Credits*, Second Cycle Level 1

Learning Outcomes

In this course, students are given insight into environmental and economic sustainability in a life-cycle perspective.

Upon completion of this course, students shall be able to:

- Demonstrate an understanding of, and describe basic concepts of, life-cycle assessment (LCA) and life-cycle cost analysis (LCCA)
- Discuss the strengths and weaknesses of LCA and LCCA methodologies
- Use common methods and tools to perform life-cycle inventories, life-cycle assessments and life-cycle cost analyses for the construction and renovation of buildings
- Interpret, discuss and draw conclusions from the results of LCAs and LCCAs
- Work in a group on a project; write and present a technical report

Course Content

This course includes theory on and practical application of life-cycle assessment (LCA) and life-cycle cost analysis (LCCA) methodologies, from the definition of goal and scope of the analysis to life-cycle inventory, impact assessment and interpretation of results. The basic concepts of LCA and LCCA will be treated in the course, and the student will become familiar with common tools for performing LCA and LCCA through lectures, literature and practical exercises, including one laboratory exercise, hand in assignments and one project.

Assessment

Laboratory work – active participation and written report (1.0 credit)

Individual hand-in assignments (1.0 credit)

Project work – active participation and written report (3.0 credits)

The project is done in groups, with individual report writing. The group shall also write minutes on the work efforts and contributions to the task of each group member.

Forms of Study

Lectures, seminars, laboratory work, project work

Grades

The Swedish grades U, 3, 4, 5.

Laboratory work and hand-in assignments, U/G.

Prerequisites

Bachelor of Science degree from building-, energy technology or civil engineering related fields of at least 180 credits and English 6

Subject:

Energy Technology

Group of Subjects:

Energy Technology

Disciplinary Domain:

Technology, 100%

This course can be included in the following main field(s) of study:

1. Energy Technology

Progression Indicator within (each) main field of study:

1. A1N

Approved:

Approved 27 April 2017

Valid from 11 July 2017