UNIVERSITY OF BORÅS

Life Cycle Assessment
Livscykelanalys
5 credits
5 högskolepoäng

Ladok Code: 42K23L
Version: 1.0
Established by: Education Committee 2014-11-21
Valid from: Autumn 2015

Education Cycle: Second cycle
Main Field of Study (Progressive Specialisation): Resource Recovery (A1F)
Disciplinary Domain: Technology
Prerequisites: Admitted to MSc in Resource Recovery (or equivalent).
Subject Area: Chemical Engineering
Grading Scale: Seven-degree grading scale (A-F)

Content
• LCA – principles and structure

• Definition of goal and scope of LCA

• Functional unit

• Data sources

• Flow Chart

• System boundaries

• Allocation

• Inventory analysis

• Methods for impact assessment

• Classification

• Characterisation

• Weighting

• Interprestation

• LCA as support for activities such as green marketing and product development

Learning Outcomes
Upon completion of the course the students must be able to

1 Knowledge and understanding

1.1 Describe the weaknesses and strengths of life cycle assessment (LCA) and the need for transparency in a LCA report.

2 Skills and ability

2.1 Plan a LCA

2.2 Draw a flowchart for the process or product under investigation

2.3 Perform an inventory analysis using the flow chart's in and out flows

2.4 Interpret the results of the LCA

2.5 Present the LCA both orally and in writing

3 Ability to evaluate knowledge and put it into perspective

3.1 Describe how LCA can be used to support activities such as green marketing and product development

3.2 Describe LCA's limitations from a sustainable development perspective

Forms of Teaching

The course consists of lectures, self-study, discussions and tutorials. Students also perform a detailed LCA, either individually or in pairs. This LCA will be presented in both a written report and as an oral presentation.

The language of instruction is English.

Forms of Examination

The course will be examined through the following examination elements:

Written exam
Learning outcomes:
Credits: 1
Gradingscale: Seven-degree grading scale (A-F)

Project
Learning outcomes:
Credits: 4
Gradingscale: Fail (U) or Pass (G)

If all parts of the course passed then the course grade is the same as the grade of the written examination.

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

Literature and Other Teaching Materials

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

Student Influence and Evaluation

The head of department and course teacher have the responsibility to systematically and regularly monitor the students' assessments of the course. These assessments form the foundation for the course development.

Miscellaneous