Sveriges lantbruksuniversitet
Swedish University of Agricultural Sciences

Syllabus

TN0193.1 Energy and Life Cycle Analysis, 3.0 credits

Energi- och livscykelanalys

The course is given as course independent of study programme

Syllabus discontinued 27 November 2008

Version 1 in Slukurs. Corresponds to version 1 in Ladok

Syllabus approved

30 November 2006

The version applies to students admitted from spring 2008 to spring 2008

The version is not a module version

Subjects

Technology/Technique

Education cycle

First cycle

Modules

Title	Code	Credits
Single module	0101	3.0

Advanced study in the main field

Grading scale

Pass / Failed

The requirements for attaining different grades are described in the course assessment criteria which are contained in a supplement to the course syllabus. Current information on assessment criteria shall be made available at the start of the course.

Language

Swedish

Prior knowledge

Two years at the Energy systems program according to the study plan of the program, or equivalent qualifications.

Objectives

The purpose of the course is to provide knowledge on quantification of natural resource use in a life cycle perspective and the environmental load caused by this use. The main focus is on energy, exergy and life cycle analysis. These methods are based on a scientific/thermodynamic view and are extensively used within industry and universities. An overview on other quantitative methods is also included in the course.

Content

Energy analysis
Exergy analysis
Life cycle analysis
- definition of purpose, system limits and functional unit
- inventation (LCI)
- impact analysis (LCIA)
- result interpretation, sensitivity analysis

Other quantitative methods for analysis of environmental load (Emergy analysis, MFA etc.)
Data sources
Data quality
The course also include a project work. The students will in the first phase of this project carry out an energy analysis of a smaller production system and in the second phase extend the analysis to a LCA.

Implementation

Lectures 16 h
Project work 24 h

Examination

Requirements for examination

Written examination. Written and oral presentation of project works.

Passed project work and examination.

- If the student fails a test, the examiner may give the student a supplementary assignment, provided this is possible and there is reason to do so.
- If the student has been granted special educational support because of a disability, the examiner has the right to offer the student an adapted test, or provide an alternative assessment.
- If changes are made to this course syllabus, or if the course is closed, SLU shall decide on transitional rules for examination of students admitted under this syllabus but who have not yet passed the course.
- For the examination of a degree project (independent project), the examiner may also allow the student to add supplemental information after the deadline. For more information on this, please refer to the regulations for education at Bachelor's and Master's level.

Additional information

- The right to take part in teaching and/or supervision only applies to the course date to which the student has been admitted and registered on.
- If there are special reasons, the student may take part in course components that require compulsory attendance at a later date. For more information on this, please refer to the regulations for education at Bachelor's and Master's level.

Responsible department

Department of Energy and Technology

Supplementary Information

Finalized by: Programutskottet för teknikutbildningarna