

# Advanced Ecodesign

Programme course

6 credits

Avancerad miljödriven produktutveckling

TKMJ46

Valid from: 2017 Spring semester

**Determined by**  
Board of Studies for Mechanical  
Engineering and Design

**Date determined**  
2017-01-25

## Main field of study

Product Development, Mechanical Engineering

## Course level

Second cycle

## Advancement level

A1X

## Course offered for

- Design and Product Development

## Entry requirements

Note: Admission requirements for non-programme students usually also include admission requirements for the programme and threshold requirements for progression within the programme, or corresponding.

## Prerequisites

General technical knowledge from three years of study at a technical university.  
Environmental Engineering, Resource-efficient products

## Intended learning outcomes

The student should after the course:

- Have detailed knowledge of and practice in life cycle assessment methodology, and individual be able to apply the method.
- Analyze and depending on the need, choose appropriate methods / tools for ecodesign.
- Understand and describe the relevant international environmental related product legislations, such as WEEE, RoHS, ELV, and EuP.
- Understand and describe international standards on ecodesign, such as ISO 14 006 and ISO 14064 and eco-labels (Type 1-3).
- Have detailed knowledge of, how to implementing ecodesign strategies and a handful of ecodesign methods / tools. At least one of these ecodesign methods / tools must be customer and value based.
- Be able to utilize life-cycle methodology and at least one more ecodesign method / tool on a product, this in order to identify, analyze and reduce the environmental impact of the product.

## Course content

In-depth knowledge of and practice in life cycle assessment methodology. Choice of ecodesign methods / tools. International environmental related product legislation such as WEEE, RoHS, ELV, EuP. International standards on ecodesign, such as ISO 14006 and ISO 14064 and eco-labels (Type 1-3). In-depth knowledge of ecodesign strategies and ecodesign methods / tools. Seminars on various ecodesign methods / tools. Mandatory project where students conduct a life cycle assessment and, upon approval by the examiner, utilizes another optional ecodesign method / tool on a product, this in order to identify and reduce its environmental impact.

## Teaching and working methods

The course is based on lectures, exercises, seminars and project work.

## Examination

|      |                     |             |            |
|------|---------------------|-------------|------------|
| PRA1 | Project assignment  | 1.5 credits | U, G       |
| TEN1 | Written examination | 4.5 credits | U, 3, 4, 5 |

Course grades are determined based on a written exam and a written project report.

## Grades

Four-grade scale, LiU, U, 3, 4, 5

## Department

Institutionen för ekonomisk och industriell utveckling

## Director of Studies or equivalent

Niclas Svensson

## Examiner

Mattias Lindahl

## Course website and other links

## Education components

Preliminary scheduled hours: 51 h

Recommended self-study hours: 109 h

## Course literature

Stevens, Ab (2007) Adventures in EcoDesign of Electronic Products Avancerad miljödriven produktutveckling, Litteraturkompendium – en sammanställning av forskningsartiklar.

## Common rules

Regulations (apply to LiU in its entirety)

The university is a government agency whose operations are regulated by legislation and ordinances, which include the Higher Education Act and the Higher Education Ordinance. In addition to legislation and ordinances, operations are subject to several policy documents. The Linköping University rule book collects currently valid decisions of a regulatory nature taken by the university board, the vice-chancellor and faculty/department boards.

LiU's rule book for education at first-cycle and second-cycle levels is available at [http://stydokument.liu.se/Regelsamling/Innehall/Utbildning\\_pa\\_grund-\\_och\\_avancerad\\_niva](http://stydokument.liu.se/Regelsamling/Innehall/Utbildning_pa_grund-_och_avancerad_niva).