



MF2114 Design for Sustainability 3.0 credits

Design för hållbarhet

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

Establishment

On 01/10/2020, the Dean of the ITM School has decided to establish this official course syllabus to apply from autumn term 2021 (registration number M-2020-1751). .

Grading scale

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

Education cycle

Second cycle

Main field of study

Mechanical Engineering

Specific prerequisites

The students should have completed and received a Pass grade in:
MF1061 Introduction to Design and Product Realisation (or MF1018 Industrial Design Prop),
MF1062 Design and Product Realisation, and
MF1040 Design and Product Realisation Methodology, or the equivalent knowledge in design.

Language of instruction

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

Intended learning outcomes

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

1. Describe and evaluate different possible methods for design, to contribute to sustainability change of industrial systems.
2. Use relevant design methods to develop ideas for technical systems.
3. Critically review design of products and systems in relation to sustainability.

Course contents

The course **Design for sustainability** covers different methods for design in development of technical systems that are relevant for engineers of Design and Product Realisation to use professionally, to engage in sustainability adaptation. By correlating sustainability concepts to the design and product realisation process with systems focus, the course aims to contribute to creating overview and understanding of how design in various ways can be used in sustainability adaptation of industrial systems. With a focus on the development of technical systems, the course intends to create understanding of how design in an intentional way can influence relations between people and technology, thereby contributing to sustainability adaptation. Furthermore, the course promotes learning through making and in work with a design project different design methods are used and tested to make complexity in sustainability concrete.

- The course focuses on development of technical systems and includes lectures and exercises that cover different methods for how design can contribute to sustainability adaptation.
- The course includes a group-based design project, where proposals for sustainability adaptation of technical systems are developed. The design project is a hands-on activity, that requires attendance and active commitment of the students, including interaction with the teachers through supervision.
- The course includes written assignments that contribute to visualise tacit knowledge and promote critical review and reflection.

Examination

- DPR1 - Design Project Assignment, 1.5 credits, grading scale: P, F
- INL1 - Hand in assignment, 1.5 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.

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

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.