AL1351 Energy, Environment and Sustainable development 4.5 credits

Energi, Miljö och hållbar utveckling

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

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

Establishment

The course syllabus is valid from Spring 2023 according to the Head of school decision A-2023-0685, 3.2.2. Date of decision: 2023-03-19

Grading scale

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

Education cycle

First cycle

Main field of study

Technology

Specific prerequisites

Entry requirements for admission to the Engineering programme in energy and environment.

Language of instruction

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

Intended learning outcomes

The overarching aim of the course is to give an overview of and an early contact with the current situation and developments in the energy-, climate- and environmental areas, and the concept sustainable development to create a joint basis for the students before the future studies of the programme. The course gives basic knowledge in current sustainability challenges but also tools and terminology to understand possible solutions. The course also introduces the students to the academic tradition, for example information retrieval in different forms.

On completion of the course, the student should be able to:

- Explain and problematise (discuss different understanding) of the concept sustainable development
- Describe the basic features of the Swedish energy system
- Describe the fundamental features of and the motives to the Swedish environmental goals and UN's sustainable development goal and explain in what way they are relevant for engineers
- Analyse different solutions to decrease climate impact from a system perspective in relation to sustainable development.
- Present, document and discuss problem-solving in the energy and environmental arena orally and in writing.
- Demonstrate the ability to follow instructions, plan studies, meet deadlines and cooperate with other students.

Course contents

The course consists of two parts that interact during the course. The first part is the introduction to the subject area. Here, key concepts are brought up such as sustainable development, the importance of to think from a system perspective and to use different types of knowledge to solve engineering problems. In this introduction, information retrieval and report writing are introduced, which will be used during the course's project work.

In the other part the students dig deeper in the subject area through a project work. The work is presented orally and in writing. Critical review on the work of other group is included.

Examination

- PRO1 - Project assignment, 2.5 credits, grading scale: P, F
- TEN1 - Written exam, 2.0 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.

In some cases, examination can be given as an oral instead of a written.

Other requirements for final grade

In addition to grade reported examination, also requirements of attendance and active seminar participation sessions with associated written assignments apply.

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.