



LUNDS UNIVERSITET
Lunds Tekniska Högskola

Course syllabus

Miljösystemanalys och hållbar utveckling

Environmental Systems Studies and Sustainable Development

FMIF10, 6 credits, G2 (First Cycle)

Valid for: 2023/24

Faculty: Faculty of Engineering, LTH

Decided by: PLED W

Date of Decision: 2023-03-27

General Information

Main field: Technology.

Compulsory for: Pi3

Language of instruction: The course will be given in Swedish

Aim

The aim of the course is to prepare engineering students so that they can handle sustainability issues in their future professional life. Many students will work in large companies, with activities or production on/for an international market. These positions entail a personal responsibility for, e.g., environmental and resource issues. In this context knowledge is essential, not only about current environmental and sustainability issues, but also about the societal framework and about methods used in industry, commerce and the public sector.

Learning outcomes

Knowledge and understanding

For a passing grade the student must

- Be able to present an overview of the important environmental and resource issues related to the demands in modern society.
- Be able to analyse critically the concept of sustainable development.
- Be able to describe and apply different ethical perspectives on sustainable development.
- Be able to describe and apply principles from environmental economics and ecological economics.

Competences and skills

For a passing grade the student must

- Be able to formulate a problem/an issue to be followed up in an analysis.
- Be able to write a well-structured short paper with a correct reference system, and be able to gather and critically evaluate information.
- Be able to present and discuss independent analyses within the field of the course, in writing as well as orally.

Judgement and approach

For a passing grade the student must

- Be able to identify and discuss problems within environmental ethics that are relevant for the active engineer

Contents

An introduction to, and discussion of, the concept sustainable development, environmental ethics, and environmental and ecological economics.

National and international targets and agreements are discussed, for example the Swedish environmental objectives and Agenda 2030.

Resource use and resource flows, climate change, and biodiversity loss are three challenges for sustainable development that are specifically addressed.

Examination details

Grading scale: TH - (U,3,4,5) - (Fail, Three, Four, Five)

Assessment: A written examination. The project and assignments are individual or performed in small groups. The project should analyse a relevant issue related to the contents of the course. It is presented in the form of a short paper, which is also discussed in a seminar. One assignment comprises economic and/or technical calculations relevant to the contents of the course; they should be accompanied by an independent critical evaluation. The project and assignments are presented and discussed in seminars. Participation in seminars is mandatory. The final grade (3,4 or 5), is based on the grade of the exam (2/3) and the project (1/3).

The examiner, in consultation with Disability Support Services, may deviate from the regular form of examination in order to provide a permanently disabled student with a form of examination equivalent to that of a student without a disability.

Parts

Code: 0113. **Name:** Examination.

Credits: 4. **Grading scale:** UG. **Assessment:** Passed written or oral exam

Code: 0213. **Name:** Assignments.

Credits: 2. **Grading scale:** UG. **Assessment:** Group project. Written assignments and seminars.

Admission

Assumed prior knowledge: Minimum 90 higher education credits within the program.

The number of participants is limited to: No

The course overlaps following course/s: FMIF45, FMIF50, FMI031, FMIA01, FMIF05,

FMIF35, FMIF01, FMIF15, FMIF20

Reading list

- Scientific articles and reports. The list of literature is updated every year. All relevant literature is accessible on the course webpage (Canvas).

Contact and other information

Course coordinator: Alexandra Nikoleris, alexandra.nikoleris@miljo.lth.se

Course administrator: Petra Malmquist, petra.malmquist@miljo.lth.se

Teacher: Joachim Tilsted, joachim_peter.tilsted@miljo.lth.se