



Course syllabus

Miljösystemanalys: Klimat som vetenskap och politik Environmental System Studies: Climate, Science and Politics

FMIN05, 7,5 credits, A (Second 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.

Elective Compulsory for: I3

Elective for: F4, Pi4, W4-es, W4-ms

Language of instruction: The course will be given in English

Aim

The general aim of the course is to provide knowledge about the most important concepts in climate science and actors in the international climate policy debate and negotiations. To study climate issues from a systems analytical perspective where independent critical analysis of the interaction between science and policy is central.

Learning outcomes

Knowledge and understanding

For a passing grade the student must

Be able to describe the most important concepts in climate science, the actors and positions in the international climate policy debate and negotiations.

Be able to explain the science behind climatic change, its causes and consequences, including uncertainties regarding the causes and consequences of climate change.

Be able to independently analyse international climate issues from a systems perspective, including and comparing natural science, social science, technical and

ethical aspects.

Be able to describe the conditions and forms for the development of climate policy and be able to contribute to a discussion of these matters.

Competences and skills

For a passing grade the student must

Be able to present independent critical analysis and show ability to handle a complex international source material connected to events, actions, proposed measures and information concerning climate issues.

Judgement and approach

For a passing grade the student must

Show ability to evaluate varying source material within the field of the course.

Contents

The primary focus of the course is on the description and analysis of the connections and interactions between science and policy/politics.

Natural science and technological aspects such as radiation balance, coal balance, atmospheric science and meteorology, palaeoclimatology and climate modelling are reviewed. This includes greenhouse gases, warming potential, climate sensitivity, albedo, carbon sink, scenarios and carbon storage.

Social science aspects include international relations and negotiations, climate politics and economy, including policy, burden sharing, cost-benefit analysis, technology transfer, system innovations, transitions and policy instruments.

The course consists of lectures and seminars where the aspects are presented, discussed and related to each other. The literature provides background and deeper knowledge.

Examination details

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

Assessment: A written exam at early mid-term, a few written assignments and a book seminar (in which participation is mandatory). A final written exam.

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.

Admission

Admission requirements:

- Minimum 6 higher education credits in environmental studies

Assumed prior knowledge: Minimum 130 higher education credits within the programme.

The number of participants is limited to: No

The course overlaps following course/s: FMIN01

Reading list

- Svenska: En ännu varmare värld. Monitor 23. Naturvårdsverket, 2016, ISBN: 978916201300-4. English version: A Warmer World, Monitor 18, Swedish Environmental protection Agency 2003. Books, articles and reports. Due to

rapid changes in the field, this list may be changed in the coming year.
Changes in course literature will be communicated at least eight weeks before start of the course.

Contact and other information

Course coordinator: Lars J Nilsson, lars.nilsson@miljo.lth.se

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

Course homepage: <http://www.miljo.lth.se>

Further information: Re-examination is possible during examination periods.