
NXXYYF, Sustainable Land Use, 7,5 credits
Hållbar markanvändning, 7,5 högskolepoäng
Third Cycle/Forskarnivå

Confirmation

This course syllabus is pending approval by The Research Programmes Board at the Faculty of Science.

The course syllabus is formally approved in Swedish. This is a translation.

Learning outcomes

The sustainable use of land is a central component to reaching many of the Sustainable Development Goals of the UN. Decision-making regarding land use can become conflict-laden as land resources are both finite and yet essential to nearly all sectors of society, and may impact livelihoods across scales.

Researchers measure and utilize data or evidence to make claims on the state of sustainability over time or on the consequences of land use changes. General knowledge about this scientific process gives us a deeper understanding of the link between research and policy informed by land use indicators.

This course caters to both graduate students who want to embed their research topic in broader processes of global societal challenges related to land use, as well as those wanting to learn more about the biogeochemical and ecological processes setting the possibilities and constraints of land use and methods of measurement upon which sustainable land use is evaluated.

On completion of the course, participants shall be able to:

Knowledge and understanding

- Demonstrate an understanding of the driving forces for differentiated land use needs and demands across sectors as well as explain trade-offs and synergies linked to national and global environmental, social, and economic goals.

- Demonstrate familiarity with methods commonly used to evaluate sustainable land use in relation to the sustainable development goals, such as aerial photographs, satellite data and land use databases.

Competence and skills

- Identify and propose indicators for sustainable land use.
- Critically analyse and assess how indicators of sustainability are derived from and informed by data.
- Define and compare direct and indirect drivers of land use change in relation to the sustainable development goals.
- Analyse and assess scientific publications about sustainable land use from different scientific disciplines.
- Demonstrate a capacity to assess spatial and temporal uncertainties in land use classification and data.

Judgement and approach

- Demonstrate an understanding of the complexity surrounding sustainable land use in a global perspective.
- Show insight into assumptions and values inherent in knowledge production as part of conducting natural science research.
- Critically reflect on the role of indicators to monitor progress and support policymaking.

Course content

The course is divided into themes covering multiple aspects of land use in agricultural land and forests and to some extent also urban and marine areas. These include natural processes, competing land use needs and demands across sectors and scales, sustainability indicators, measuring and data analysis, and policy processes.

Forms of instructions

Teaching consists of lectures, literature seminars, practical exercises, and supervision of an individual project. It is compulsory to participate in all scheduled activities and associated elements.

Forms of assessment

The assessment is based on active participation in all compulsory components as well as on the written assignment of the individual project.

Grades

Possible grades are Pass and Fail. For a grade of Pass, the student must participate in all compulsory components and pass the written individual project report.

Language of instruction

The course is given in English.

Necessary prior knowledge

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Additional information

Examination parts for the course NXXYYF

2001 Completion (including active participation) of compulsory components, 5 credits. Pass or Fail.

2002 Passed written individual project report, 2,5 credits. Pass or Fail.