



LUND UNIVERSITY  
Faculty of Science

## SYLLABUS

Date  
8 February 2021

Reg. No.  
U 2021/22

### **Syllabus for the course Sustainable Land Use, NMV004F**

*Swedish title: Hållbar markanvändning*

**The course syllabus was confirmed by the Faculty board for graduate studies 8 February 2021. The course is in the third cycle and amounts to 7.5 credits.**

**Teaching language is English.**

*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*

- Describe and understand 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.
- Define and compare direct and indirect drivers of land use change in relation to the sustainable development goals.
- Account for methods commonly used to evaluate sustainable land use in relation to the sustainable development goals

#### *Skills and abilities*

- Explain how indicators of sustainability are derived and informed by data.
- Identify and propose indicators for sustainable land use.
- Be familiar with common methods to derive land use information from remotely sensed data such as aerial photographs, satellite data and land use databases.
- Review and assess scientific publications about sustainable land use from different scientific disciplines.

#### *Judgement and approach*

- Demonstrate an understanding of the complexity surrounding sustainable land use in a global perspective.
- Understand spatial and temporal uncertainties in land use classification and data.
- 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.

**Teaching**

Teaching includes lectures, literature seminars, practical exercises, and supervision of an individual project.

**Assessment**

Assessment is based on active participation in the literature seminars as well as on the written assignment of the individual project.

**Grading scale**

Possible grades are Pass and Fail. To pass the course, the student must attend all literature seminars and pass the written individual project report.

**Language of instruction**

English

**Entry requirements**

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**Additional information**

The course is an optional course within the Agenda 2030 Graduate School at Lund University. It is open for Agenda 2030 PhD students as well as other PhD students from inside and outside of Lund University (priority in the order mentioned).