

Methods in Ecology

Programme course

15 credits

Methods in Ecology

NBID53

Valid from: 2017 Spring semester

Determined by

Board of Studies for Chemistry, Biology
and Biotechnology

Date determined

2017-01-25

Main field of study

Biology

Course level

Second cycle

Advancement level

A1X

Course offered for

- Ecology and the Environment, Master's Programme

Entry requirements

Note: Admission requirements for non-programme students usually also include admission requirements for the programme and threshold requirements for progression within the programme, or corresponding.

Prerequisites

120 ECTS including 90 ECTS in Biology and a second course in Ecology.

Intended learning outcomes

The aim is that the students should achieve a deeper understanding of the structure and function of terrestrial and aquatic ecosystems, of ecological theories and methods, and how to plan, perform and report ecological experiments and comparative studies. Having successfully passed the course, the students should be able to:

- Critically read scientific articles, identify ecological problems and formulate appropriate hypotheses
- Plan and perform ecological experiments, comparative studies and monitoring
- Understand ecological processes that regulate species composition and influence nutrient dynamics in lakes and wetlands
- Understand how soil processes, climate and biological interactions, for instance between plants and herbivores, influence biodiversity and species structure of organism communities in forests and grasslands
- Successfully communicate science, written and oral
- Contribute to successful cooperation in project groups
- Improve her/his skills in both written and oral communication of scientific papers in the areas of relevance for the course.
- Make scientific judgments from primary data.

Course content

Ecological theory and methods are exemplified with present research within a number of selected areas, such as ecosystem dynamics in wetlands and shallow lakes, ecology of grasslands and forests, and origin and maintenance of biodiversity at the population and species levels. Modules of study are carried out in close cooperation with research projects dealing with these issues.

Teaching and working methods

The education includes lectures, literature seminars, laboratory work and field practice. Literature seminars, laboratory work and field practice are compulsory. Extra costs due to travelling and living must be paid by the student.

Examination

UPG2 Written and oral presentations of scientific articles	3 credits	U, 3, 4, 5
PRA1 Project	3 credits	U, 3, 4, 5
UPG1 Seminars and Literature Course	9 credits	U, 3, 4, 5

For the final grade, the grades of the different examination parts is weighted related to the size of each part.

Grades

Four-grade scale, LiU, U, 3, 4, 5

Department

Institutionen för fysik, kemi och biologi

Director of Studies or equivalent

Agneta Johansson

Examiner

Anders Hargeby

Education components

Preliminary scheduled hours: 115 h

Recommended self-study hours: 285 h

Course literature

Additional literature

Books

Gotelli, N.J. & Ellison, A.M., (2013) *A Primer of Ecological Statistics*. Andra upplagan

Articles

Common rules

Regulations (apply to LiU in its entirety)

The university is a government agency whose operations are regulated by legislation and ordinances, which include the Higher Education Act and the Higher Education Ordinance. In addition to legislation and ordinances, operations are subject to several policy documents. The Linköping University rule book collects currently valid decisions of a regulatory nature taken by the university board, the vice-chancellor and faculty/department boards.

LiU's rule book for education at first-cycle and second-cycle levels is available at http://stydokument.liu.se/Regelsamling/Innehall/Utbildning_pa_grund-_och_avancerad_niva.