Population Ecology: Theories and Applications

Programme course

9 credits

Ekologisk teori och dess tillämpningar

NBID57

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
To provide advanced knowledge of concepts and theories in population and community ecology and their applications to some important environmental problems. To prepare for research and to give experience in scientific writing (reports). After completing this course students should be able to give an account of and analyse how ecological systems are affected by different kinds of disturbances. Students should be able to perform viability and sensitivity analysis at the population and community level (risk assessments). Have improved her/his skills in both written and oral communication of scientific papers in the areas of relevance for the course. Have developed his/her ability to critically assess scientific papers, and make scientific judgements of primary data.

Course content
Structure and dynamics of populations and ecological communities in space and time. Applications of concepts and theories from these areas on some actual, important ecological problems, such as: protection of endangered species and biodiversity; biological control of pest species; sustainable harvesting of natural resources; effects of alien species on ecological communities; species reintroductions; the response of ecological communities to climate change and to habitat destruction and fragmentation; vulnerability and recovery ability of ecosystems subjected to different kinds of disturbances. Reading primary scientific literature within areas relevant for the course. Critical assessments and oral presentations of scientific literature.

Teaching and working methods
The course consists of lectures, seminars and computer exercises. The course is to a large extent based on independent work (individually and in small groups). Literature (theory) and results from computer exercises are presented and discussed at seminars and in written reports. Seminars are compulsory.

Examination
UPG1	Computer Exercises and Seminar Assignments	9 credits	U, 3, 4, 5

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

Department
Institutionen för fysik, kemi och biologi

Director of Studies or equivalent
Agneta Johansson

Examiner
Tom Lindström

Course website and other links

Education components
Preliminary scheduled hours: 66 h
Recommended self-study hours: 174 h

Course literature

Additional literature

Books

Akcakaya, Burgman & Ginzburg, (1999) *Applied population ecology*. 2nd ed.

Compendia

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://styrdokument.liu.se/Regelsamling/Innehall/Utbildning_pa_grund-_och_avancerad_niva.