



**LUND**  
UNIVERSITY

Faculty of Science

## **BIOC12, Biology: Ecology, 7.5 credits**

*Biologi: Ekologi, 7,5 högskolepoäng*

First Cycle / Grundnivå

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### **Details of approval**

The syllabus was approved by Study programmes board, Faculty of Science on 2018-09-11 to be valid from 2018-09-11, spring semester 2019.

### **General Information**

The course is an optional course for a degree of Bachelor of Science.

*Language of instruction:* Swedish

*Main field of studies*

Biology

*Depth of study relative to the degree requirements*

G1F, First cycle, has less than 60 credits in first-cycle course/s as entry requirements

### **Learning outcomes**

The overall aim of the course is that the student shall understand the different levels within ecology, from individual to ecosystem, and be able to account for fundamental ecological processes and different ecological systems.

### **Knowledge and understanding**

On completion of the course the student shall be able to:

- account for the basic principles of natural and sexual selection and be able to describe and understand reasons for variation in physiology, morphology and behaviour in organisms based on these principles
- explain the meaning of and identify costs of reproduction and roughly classify life history strategies in different organisms
- describe the different factors that potentially influence the density of individuals in a population, and account for how different density-dependent factors affect the population dynamics
- categorise various types of interactions within and between species, and understand potential effects of these

- identify the components of plant and animal communities, and understand the processes between these and how they are influenced by abiotic factors
- explain the concepts diversity, stability, and succession, and in what way these can be used to describe and understand processes in ecosystems
- account for the most important terrestrial, limnic, and marine ecosystems, and the factors that mediate species composition and productivity
- give examples of how fundamental ecological principles influence work with species conservation
- account for the fundamental features of the legislation that regulates nature conservation and protection of endangered species in our country

### **Competence and skills**

On completion of the course the student shall be able to:

- carry out, compile and analyse simple field surveys
- search information in literature, libraries, and databases
- write a scientific report and present it orally

### **Judgement and approach**

On completion of the course the student shall be able to:

- identify the basic scientific and moral motives for preservation of endangered species and nature conservation
- evaluate nature conservation from a biological as well as a societal perspective

### **Course content**

The course includes the following topics:

- basic evolutionary theory and population genetics
- population ecology how populations grow and are regulated, possible interactions between individuals within a population and between different populations
- interactions between species including competition, predation, and mutualism
- terrestrial, limnic, and marine ecosystems abiotic factors and organisms, interactions between species, and interactions between different ecosystems
- biogeography, Swedish vegetation, soil ecology, and the history and ecology of the cultural landscape
- conservation of biodiversity, flora and fauna conservation, the aim of nature conservation, and the problems and legislations around it
- agriculture and forestry

The course includes excursions, seminars and exercises in population theory and statistics, and a field exercise.

### **Course design**

The teaching consists of lectures, excursions, seminars and exercises. Compulsory participation is required in excursions, seminars and exercises and associated elements.

## **Assessment**

Examination takes place in the form of a written exam at the end of the course and through compulsory components. Students who do not pass an examination will be offered another opportunity soon thereafter.

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.

*Subcourses that are part of this course can be found in an appendix at the end of this document.*

## **Grades**

Marking scale: Fail, Pass, Pass with distinction.

The compulsory components seminars and exercises are graded Fail, Pass. For a grade of Pass on the whole course, the student must have passed the written examination and all compulsory parts. The final grade is determined by the result on the written exam.

## **Entry requirements**

To be admitted to the course, students must have 45 ECTS credits in Natural Science studies.

## **Further information**

The course may not be included in a degree together with BIOC02 Ecology, 15 credits, or BIOC10 Ecology, 15 credits.

## Subcourses in BIOC12, Biology: Ecology

Applies from V19

1901 Ecology, 7,5 hp  
Grading scale: Fail, Pass, Pass with distinction