



Faculty of Health, Science and Technology
Biology

Syllabus

Ecology

Course Code:	BIG005
Course Title:	Ecology <i>Ekologi</i>
Credits:	15
Degree Level:	Undergraduate level
Progressive Specialisation:	First cycle, has only upper-secondary level entry requirements (G1N)

Major Field of Study:
BIA (Biology)

Course Approval

The syllabus was approved by the Faculty of Health, Science and Technology 2023-01-30, and is valid from the Autumn semester 2023 at Karlstad University.

Prerequisites

General admission requirements, plus upper secondary level Mathematics 3b or Mathematics 3c, Biology 1, and Chemistry 1 or Natural Science 2, or equivalent

Learning Outcomes

Upon completion of the course, students should be able to:

1. give an account of how the basic principles of natural and sexual selection relate to variation in the physiology, morphology, and behaviour of organisms,
2. give an account of theories of speciation, how phylogeny can be studied, and patterns of species distribution,
3. give an account of and quantify the dynamics, growth, and regulation of populations,
4. give an account of community ecology theory and different inter- and intraspecific interactions,
5. explain the significance of and quantify biodiversity,

6. give an account of ecosystem function and organisation,
7. give an account of how humans are part of and affect biological systems, as well as strategies for sustainable development and conservation of biological systems and functions,
8. plan and conduct field studies, analyse data and report the results, and
9. review and discuss scientific ecological articles.

Content

The course covers the basics of ecology and evolution. It begins with an introduction, focused on how evolutionary processes shapes organisms and their adaptations, and moves on to the impact of the physical environment on patterns of species distribution, mechanisms that influence the temporal and spatial variation of populations, ecosystem processes, and ways in which humans are part of and affect biological systems.

Reading List

See separate document.

Examination

Learning outcomes 1-7 are assessed based on an individual written exam.

Learning outcome 8 is assessed based on an oral report (Field Study 1) and written reports (Field Study 2 and short assignments).

Learning outcome 9 is assessed based on discussions about scientific articles at literature seminars.

If students have a decision from Karlstad University entitling them to Targeted Study Support due to a documented disability, the examiner has the right to give such students an adapted examination or to examine them in a different manner.

Grades

One of the grades Distinction (VG), Pass (G), or Fail (U) is awarded in the examination of the course.

Quality Assurance

Follow-up relating to learning conditions and goal-fulfilment takes place both during and upon completion of the course in order to ensure continuous improvement. Course evaluation is partly based on student views and experiences obtained in accordance with current regulations and partly on other data and documentation. Students will be informed of the result of the evaluation and of any measures to be taken.

Course Certificate

A course certificate will be provided upon request.

Additional information

The local regulations for studies at the Bachelor and Master levels at Karlstad University stipulate the obligations and rights of students and staff.

The course includes fieldwork, and students may be required to meet the cost of this component.