



Faculty of Science

BIOS18, Biology: Limnology and Marine Ecology - Organisms and Habitats, 15 credits

Biologi: Limnologi och marin ekologi - organismer och habitat, 15 högskolepoäng
Second Cycle / Avancerad nivå

Details of approval

The syllabus was approved by The Education Board of Faculty of Science on 2025-05-23. The syllabus comes into effect 2025-05-23 and is valid from the autumn semester 2026.

General information

The course is an optional second-cycle course for a degree of Bachelor or Master of Science in Biology.

Language of instruction: English

Main field of study *Specialisation*

Biology A1N, Second cycle, has only first-cycle course/s as entry requirements

Learning outcomes

The aim of the course is that the student should acquire an overall view on the distribution and function of organisms in relation to chemical and physical preconditions in aquatic systems from source to sea.

Knowledge and understanding

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

- describe structure and function of aquatic ecosystems
- give an account of aquatic organism groups and their role in aquatic ecosystems
- account for sampling methodology and the most common chemical and physical analytical methods in aquatic systems

- explain general differences and similarities between fresh water and marine systems

Competence and skills

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

- acquire, analyze and critically interpret aquatic data
- use relevant literature to identify aquatic organisms
- identify a number of the most common aquatic organisms in Swedish waters
- conduct sampling of water and analyses of important chemical-physical variables. sampling of microorganisms as well as plant and animal groups in different aquatic environments, including different methods for fish sampling
- carry out and independently compile basic aquatic projects
- present an aquatic project in written and oral form and receive and give feedback on others' projects

Judgement and approach

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

- value his/her knowledge in aquatic ecology and relate these to research and professional work
- reflect on and critically discuss human impact on aquatic organisms and ecosystems

Course content

The course consists of three modules, two theoretical parts, written examination and individual project, of 7.5 credits together, and a practical part of 7.5 credits (field exercises, seminars, laboratory sessions and species knowledge exam).

The first part of the course includes the physical and chemical properties of water, species in the different organism groups and relationships in and between populations and their environment. Effects of human impact on aquatic ecosystems are discussed.

During the second part of the course field trips to different aquatic habitats typical for southern Sweden are conducted, where the relationships between chemical-physical conditions and the adaptations of organisms are studied. Samples for analysis of chemical-physical variables, microorganisms as well as plant and animal communities are collected and analyzed in the field or the laboratory. During the practical work (carried out in project groups) the students acquire experience of the most important field and laboratory methods and knowledge of the characteristics of different aquatic environments.

During the final part of the course the students carry out a project. The assignment is to define a subject, search for scientific literature, write a report, give an oral presentation and receive and give feedback to fellow students.

Course design

The teaching consists of lectures, laboratory sessions, exercises, seminars, group exercises and project work. Participation in laboratory sessions, exercises, seminars, group exercises and project work and thereby integrated components are compulsory.

Assessment

Examination takes place in the form a written examination at the end of the course as well as written exams on species knowledge and through compulsory project, exercises, seminars and labs during the course. For students who have not passed the regular examination, an additional examination in close connection to this is offered.

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.

Grades

Grading scale includes the grades: Fail, Pass, Pass with distinction

To pass the entire course, approved written examination, approved project reports, approved examination in species knowledge as well as active participation in exercises, laboratory sessions and seminars, are required.

Grades on the modules Written examination (5 credits) and Project (2,5 credits) are Fail, Pass, Pass with distinction. Grades on the module Exercises, laboratory sessions, seminars and species knowledge (7.5 credits) are Fail and Pass.

The final grade is decided through a weighing of the results of the written examination and the project.

Entry requirements

For admission to the course, 90 credits scientific studies including knowledge equivalent to BIOC13 Ecology 15 credits and 5 credits statistics is required. English 6/B.

Further information

The course may not be included in a degree together with BIOR86 Limnology and Marine Ecology - Organisms and Habitats 15 credits.

The course is given by the Department of Biology, Lund University.