Faculty of Science

BIOR87, Biology: Limnology and Marine Ecology - Concepts and Processes, 15 credits

Biologi: Limnologi och marinekologi - koncept och processer, 15 högskolepoäng

Second Cycle / Avancerad nivå

Details of approval

The syllabus was approved by Study programmes board, Faculty of Science on 2020-06-04 to be valid from 2020-06-04, autumn semester 2021.

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 studies	*Depth of study relative to the degree requirements*
Biology	A1F, Second cycle, has second-cycle course/s as entry requirements

Learning outcomes

The general aim of the course is that the student should acquire knowledge and understanding of concepts and processes in aquatic systems from individual to system levels, as well as be able to apply adequate methods.

Knowledge and understanding

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

- describe and explain ecological processes in aquatic ecosystems from individual to system levels
- describe and explain conceptual and theoretical models of ecological and evolutionary processes in aquatic environments
- explain differences and similarities between processes in freshwater and marine systems

Competence and skills

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

- apply his/her acquired knowledge in e.g. experimental design, database management and basic molecular technologies
- analyze and interpret aquatic data and integrate these to a synthesis
- use aquatic data and process models to predict consequences of a changeing aquatic environments
- plan, perform and independently compile aquatic projects where goals, hypotheses and predictions are formulated and tested
- present aquatic projects in written and oral form

Judgement and approach

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

- evaluate his/her knowledge in aquatic ecology and relate this to theory, research and professional work
- critically reflect on human impact on aquatic processes and environments

Course content

The course consists of two modules, a theoretical part of 7.5 credits and a practical part (laboratory sessions, exercises and project work) of 7.5 credits. The course contains several components that focus on on aquatic ecological and evolutionary theory. Through a combination of lectures and experiments the students acquire knowledge of e.g. bacteria production, primary production, competition, predator-prey interactions, migration and distribution patterns in time and space and which consequences these processes have for the function of aquatic ecosystems. The practical work is carried out in project groups where the students practice planning, implementation and presentation of scientific studies.

The course includes an introduction to aquatic databases and how these can be used for time series analyses of changes in and human impact on aquatic ecosystems through e.g. climate changes, eutrophication, brownification or fishing. The course also includes an introduction to theory and laboratory work associated with basic molecular methods.

Course design

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

Assessment

Examination takes place in the form of a written examination at the end of the course and through compulsory components. 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.

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.
Grades on module Theory 7.5 credits in (written examination) are Failed, Passed, Passed with distinction. Grades on module Practicals 7.5 credits (laboratory sessions, exercises, seminars, project work) are Failed and Passed. To pass the entire course, passed examination, passed project reports and active participation in all compulsory components are required. The final grade is decided by the grade on the theoretical part.

Entry requirements

For admission to the course, 90 credits scientific studies including knowledge equivalent to BIOC10 Ecology 15 credits, BIOR86 Limnology and Marine Ecology - organisms and habitats 15 credits or BIOR17 Limnology 15 credits or BIOR65 Marine Ecology 15 credits and 15 credits cell biology and genetics. English 6/English B.

Further information

The course may not be included in a degree together with BIOR44 Limnology and water management 15 credits. The course may not be included in a degree together with more than one of the following courses; BIOR86 Limnology and Marine Ecology - organisms and habitats 15 credits, BIOR17 Limnology 15 credits or BIOR65 Marine Ecology 15 credits.

Subcourses in BIOR87, Biology: Limnology and Marine Ecology - Concepts and Processes

Applies from H21

2101 Theory, 7,5 hp
Grading scale: Fail, Pass, Pass with distinction
2102 Practicals, 7,5 hp
Grading scale: Fail, Pass