



Course syllabus

Faculty of Health and Life Sciences

Department of Biology and Environmental Science

2BI506 Marin ekologi, 15 högskolepoäng

Marine Ecology, 15 credits

Main field of study

Biology

Subject Group

Biology

Level of classification

First Level

Progression

G2F

Date of Ratification

Approved by Faculty of Health and Life Sciences 2014-12-02

The course syllabus is valid from autumn semester 2015

Prerequisites

Chemistry 15 credits and Biology 60 credits, including Ecology 15 credits, or equivalent.

Objectives

Individual students will demonstrate:

- Explain important ecological processes including human impact in different parts of the world's ocean;
- Describe, collect and explain field and laboratory data;
- Perform routine analytical measurements (pH, temperature, salinity, microscopic observation, water sampling, qualitative analysis of plankton and macroalgae);
- Identify and describe the occurrence of different key groups of bacteria, phytoplankton, zooplankton, macroalgae and fish in relation to environmental factors;
- Describe, analyze and evaluate abiotic and biotic conditions in different parts of the world's ocean;
- Work collaboratively, critically analyze and discuss ideas and conclusions during seminars;
- Define a research question, then plan and carry out a study to address this question using experimental methods;
- Analyze quantitative and qualitative data and draw conclusions about experimental results, including oral and written presentation and
- Communicate ideas and principles in marine ecology with specialists, the public and decision makers.

Content

Part 1 Theory 6 credits

Processes: habitat and environment, productivity and food webs, biodiversity, evolution and adaptation to extreme environments (deep sea, polar sea).

Human impact on the world's ocean: fisheries, aquaculture, pollution, climate change, maritime traffic.

Part 2 Practical, field excursions, seminars 5 credits

Introduction to main phytoplanktonic and macroalgal taxa: emphasis on morphology, biology and importance of the most common species found in the Baltic Sea.
Introduction to structure and function of marine plankton communities.
Hypothesis testing, Descriptive statistics (linear and exponential models, ANOVA, ANCOVA and multiple regressions)

Part 3 Personal project 4 credits

Analysis and problem solving.
Experiment planning and implementation including sampling and analytical work, literature searching, scientific writing.
Training oral and writing presentation.

Type of Instruction

The course is given in English.
Lectures, seminars, laboratory exercises and field trips constitute the core of the course.
The participation in all activities is mandatory.
Access to the internet and a valid e-mail address are mandatory.

Examination

The course is assessed with the grades A, B, C, D, E, Fx or F.
The grade A constitutes the highest grade on the scale and the remaining grades follow in descending order where the grade E is the lowest grade on the scale that will result in a pass. The grade F means that the student's performance is assessed as fail.

Examination is based on knowledge tests, laboratory/field reports, oral presentations, oral and written presentation of term paper, active participation in seminars and theoretical exercises.

Examination criteria to pass the course are defined by the objectives.
A second examination will be offered within six weeks during the semester.
Examination opportunities can be limited to five.

Course Evaluation

Upon completion, the course will be evaluated by filling out the evaluation form. The result of the individual evaluations are turned into a summary report that will be kept in the department administrative archives. The outcome of the evaluation of the previous year, as well as possible measures taken, will be discussed with the individual responsible for the educational program, as well as with incoming students at the start of the next course.

Other

Grade criteria for the A–F scale are communicated to the student through a special document. The student is to be informed about the grade criteria for the course by the start of the course at the latest.

Required Reading and Additional Study Material

Mandatory literature

Kaiser et al. (2011). *Marine Ecology, processes, systems and impacts*. 2nd ed.
Oxford University Press.
ISBN 978-0-19-922702-0

Compendium, identification literature and scientific articles will be handed out during the course.