



## Course syllabus

Faculty Board of Science and Engineering  
School of Natural Sciences

2BI013 Sötvattensekologi, 7,5 högskolepoäng  
Freshwater ecology, 7.5 credits

**Main field of study**

Biology

**Subject Group**

Biology

**Level of classification**

First Level

**Progression**

G2F

**Date of Ratification**

Approved by the Board of the School of Natural Sciences 2012-11-26

The course syllabus is valid from autumn semester 2013

**Prerequisites**

General entry requirements and Biology 60 credits, including Ecology 15 credits and Chemistry 15 credits, or corresponding.

## Objectives

At the completion of this course, students should be able to:

- describe and exemplify elementary principles of hydrology and hydrogeochemistry of fundamental importance for the distribution and abundance of aquatic organisms
- demonstrate competence in basic field and laboratory methods in freshwater ecology
- use identification key's and name important groups of organisms in freshwater habitats
- account for the occurrence of major groups of organisms including their role in the functions of freshwater ecosystems
- use databases and compile information about lakes and streams for classifications of ecological status
- communicate, and critically discuss, basic principles and conclusions from research in Freshwater Ecology with specialists, the public and decision makers.

## Content

The course is divided in two parts:

### ***Module 1 Freshwater Ecology; Theory 3 credits***

- Ecohydrology and hydrogeochemistry in the river basin
- Habitats and organisms in lakes and streams
- Populations and ecosystem processes
- Aquatic environmental objectives, monitoring and measures

### ***Module 2 Practical assignments 4.5 credits***

- River basins. Database assignment with calculations of run off, lake volume and retention.
- Water quality. Methods for sampling and analysis. Environmental status criteria.
- Aquatic organisms. Methods for sampling, identification and analysis of distribution and abundance of macrophytes, plankton and benthic invertebrates. Status classification.

### **Type of Instruction**

Lectures, seminars, field and laboratory exercises.

The participation in seminars, practical exercises and assignments is mandatory.

### **Examination**

The course is assessed with the grades Fail (U), Pass (G) or Pass with Distinction (VG).

Examination of Part 1 is usually based on one or more individual knowledge tests. A second examination will be offered within six weeks during the semester. Examination opportunities are limited to five. Part 1 is assessed with the grades U, G and VG. Part 2 is examined by evaluation of laboratory- and field assignments, by oral and written presentations of the project work. Part 2 is assessed with the grades U and G. Assessment of whole course is determined by Part 1. Examination criteria to pass the course are defined by the objectives.

### **Course Evaluation**

Upon completion, the course will be evaluated by filling out an evaluation form. The result of the individual evaluations are turned into a summary report that will be kept in the department 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.

### **Required Reading and Additional Study Material**

#### **Mandatory course literature**

Brönmark, C. and Hansson, L-A. 2005. The biology of lakes and ponds. Oxford University Press. 285pp. ISBN 0 19 851613 4

Identification literature, scientific articles and a compendium with instructions for field- and laboratory assignments will be provided during the course.

#### **Supplementary literature**

Shaw B., Mechenich C. & Klessig L. Understanding lake data. Available as PDF on <http://dnr.wi.gov/lakes/publications/under/>(23 February 2010)