Faculty of Science

# BIOR39, Biology: Biological Monitoring, 15 credits

*Biologi: Biologisk miljöövervakning, 15 högskolepoäng*

**Second Cycle / Avancerad nivå**

## Details of approval

The syllabus was approved by Study programmes board, Faculty of Science on 2007-03-01 and was last revised on 2015-03-20. The revised syllabus applies from 2015-03-20, autumn semester 2015.

## General Information

The course is an optional second-cycle course for a degree of Bachelor or Master of Science in Biology and Environmental Sciences. The language of instruction is English.

*Language of instruction:* Swedish and English

| *Main field of studies* | *Depth of study relative to the degree requirements* |
|---|---|
| Biology | A1N, Second cycle, has only first-cycle course/s as entry requirements |
| Environmental Science | A1N, Second cycle, has only first-cycle course/s as entry requirements |

## Learning outcomes

### Knowledge and understanding

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

- account for the scientific foundation of biological monitoring for nature conservation
- describe frequently used vegetation classification systems and the differences between them

### Competence and skills

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

- plan studies, critically evaluate requirement descriptions using different methods and in applicable parts analyse time series

On completion of the course the student shall also be able to carry out the following tasks and present them orally and in writing for different target groups:

- vegetation monitoring using aerial photography and site-based verification methods
- bird surveys at different spatial scales with absolute and relative methods
- identification of appropriate sites for population monitoring of rare or threatened invertebrates, amphibians and reptiles, birds and mammals
- population monitoring and species composition of plant and animal communities
- general documentation of nature in text and on map
- map and aerial photo searches in databases

### Judgement and approach

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

- evaluate which methods that are required for monitoring of plant and animal populations, and analysis of collected data for different types of nature conservation activities

## Course content

The course includes the following parts:

- the needs of inventories within the community, county boards, forest agencies etc
- planning of inventories, map and literature studies, aerial photo interpretation, time and cost calculation, and inventory methodology depending on the aim with, and application of, the results
- monitoring programs carried out in Sweden at the local, regional and national scale
- landscape analysis: the landscape as an ecosystem and unit of planning, assessment of nature values
- methods for sampling of selected groups of organisms in different biotopes, distribution of sampling points, choice of traps and sampling methods, and processing and presentation of quantitative data
- different vegetation classification systems
- documentation and conservation management plans for nature reserves, and conservation plans for Natura 2000 sites (SAC sites)
- use of data, statistical analyses, and analysis of time series
- assessment of nature values

- training in oral and written communication
- training in map use and GIS information

## Course design

The teaching consists of lectures, field trips, field exercises, seminars, group work and projects. Participation in field trips, field exercises, seminars, group work and projects, and thereby other integrated teaching, is compulsory.

## Assessment

Examination takes place continuously during the course through approval of compulsory exercises and as a written examination at the end of the course.

For students who have not passed the regular examination, an additional examination in close connection to this is offered.

*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.
To pass the entire course, approved examination and approved compulsory parts are required. The final grade is decided through a weighing of the parts that are included in the examination.

## Entry requirements

For admission to the course, English 6/English B and 90 credits of scientific studies including knowledge corresponding to BIOC02 Ecology 15 credits, and floristics 3 credits, are required.

## Further information

The course may not be included in a degree together with BIO639 Biological Monitoring 15 credits.

## Subcourses in BIOR39, Biology: Biological Monitoring

Applies from V14

0711 Theory, 10,0 hp
Grading scale: Fail, Pass, Pass with distinction
0712 Exercises and Assignments, 5,0 hp
Grading scale: Fail, Pass

Applies from V08

0701 Biological Monitoring, 15,0 hp
Grading scale: Fail, Pass, Pass with distinction