



DEPARTMENT OF BIOLOGICAL AND ENVIRONMENTAL SCIENCES

BIO916 Biodiversity and ecology, basic course, 18 credits

Biodiversitet och ekologi, baskurs, 18 högskolepoäng

First Cycle

Confirmation

This course syllabus was confirmed by Department of Biological and Environmental Sciences on 2020-01-30 and was last revised on 2021-02-12 to be valid from 2021-02-12, spring semester of 2021.

Field of education: Science 100%

Department: Department of Biological and Environmental Sciences

Position in the educational system

The course is a basic course that is included in the Bachelor's programmes in Biology and Molecular Biology. The course can also be offered as a freestanding course outside of the programs.

Main field of studies

Biology

Molecular Biology

Specialization

G1F, First cycle, has less than 60 credits in first-cycle course/s as entry requirements

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Entry requirements

Admission to the course requires completed courses BIO900, BIO906 and BIO911, or equivalent courses.

Learning outcomes

On successful completion of the course students will be able to:

Knowledge and understanding

- explain the phylogeny concept, and reconstruct and interpret phylogenetic trees
- give an account of the most important species concepts, and understand scientific classification and naming
- give an account of characteristic properties of the main groups of protists, terrestrial plants, fungi, and animals, and how they evolved
- give an account of basic ecological concepts and processes including ecosystems, biomes, energy flows, biogeochemical cycles, ecological gradients, succession and interactions between species
- describe causes and consequences of local and global environmental changes regarding land use, environmental pollution and climate change
- give an account of the importance of demographic, environmental and genetic factors for the survival of populations

Competence and skills

- place organisms in the main groups that are covered in the course, and recognise important morphological properties of these
- make simple reconstructions of phylogenetic trees based on various types of data
- identify a selection common species in west Swedish habitats based on morphological characters, and use identification tools
- identify methods for sustainable use and conservation of ecological systems, and discuss sustainable development from different perspectives
- demonstrate basic skills in the laboratory and field to study ecological patterns and processes

Judgement and approach

- critically review and relate to different scientific and popular science sources
- be able to evaluate the importance of knowledge about biodiversity and ecology in today's society

The course is sustainability-related, which means that at least one of the learning outcomes clearly shows that the course content meets at least one of the University of Gothenburg's confirmed sustainability criteria.

Course content

The course constitutes the fourth course in a basic course block in Biology/Molecular Biology of 60 credits and is divided into three sub-courses: Biodiversity and systematics

10 credits, Ecology 5 credits, and Biodiversity and ecology in the field 3 credits.

The first sub-course treats biodiversity and its evolutionary history. It gives an understanding of modern systematic working methods and ways of thinking, and broad knowledge of the most important groups of protists, terrestrial plants, fungi, and animals. These are discussed from a phylogenetic perspective, and characteristic properties are presented. The role of the systematics in society is also discussed.

The second sub-course includes ecological concepts and processes. The sub-course highlights differences between different ecosystems-, and biomes, and also covers interactions between organisms and the effects of environmental pollution and climate change. Sustainable development and nature conservation are also included in the sub-course.

The final sub-course is carried out in the field in some different West Swedish habitats that are studied from an ecological point of view, while commonly occurring species are identified. The ecology section also demonstrates indicator species and typical species, and includes examples of sampling methodology and field analyses. During the species knowledge part, identification literature and other identification tools are utilised.

Form of teaching

Teaching methods include lectures, exercises, seminars, group assignments and laborative work. Parts of the teaching takes place in the field. The course also includes communication training in the form of report writing and oral presentation.

Language of instruction: Swedish and English

The course is mainly given in Swedish, but elements of teaching in English may occur. The course literature consists mainly of literature in English.

Assessment

The examination consists of written tests. To pass the course, approved report and oral presentation are also required. For students who have not passed a regular test, additional test opportunities are offered.

Compulsory components are evident from the the course schedule. The number of occasions available for compulsory components is limited. Possibility to supplement failed compulsory parts can be given, at the earliest, at the next course occasion, space permitting.

If a student who has twice received a failing grade for the same examination component wishes to change examiner ahead of the next examination opportunity, such a request should be made to the department in writing and should be approved unless there are special reasons to the contrary (Chapter 6, Section 22 of the Higher Education Ordinance).

In the case where a course has been discontinued or has undergone major changes, a student shall be guaranteed at least three examination opportunities (including the regular examination opportunity) during a period of at least one year, but at the most two years after the course has been discontinued/changed.

Grades

The grading scale comprises: Pass with Distinction (VG), Pass (G) and Fail (U).

On the test of the two first sub-courses, one of the grades Pass with distinction (VG), Pass (G), and Fail (U) is given. On the third sub-course and the generic skills, one of the grades Pass (G) and Fail (U) is given.

For Pass on sub-course, at least Pass on all compulsory components and on the written examinations is required (usually 60% of the total of points). Pass with distinction on sub-course is given usually at 85% of the total of points on the written tests.

For Pass as final grade on the whole course, passed result in all examination parts is required. For the final grade Pass with distinction (VG) on the whole course, Pass with distinction on the tests of the two first sub-courses is furthermore required.

Course evaluation

A written course evaluation is offered at the end of the course. A summary of the course evaluation, and highlighting of potential changes is presented to both current and the following course.

Additional information

This course replaces parts of BIO915 and BIO920. BIO916 and BIO915/BIO920 cannot at the same time be included in a degree, or be included in each degree where one is based on the other.