UNIVERSITY OF GOTHENBURG

DEPARTMENT OF BIOLOGICAL AND ENVIRONMENTAL SCIENCES

BIO503 Plant ecology in a global change perspective, 15 credits

Växtekologi ur ett klimatperspektiv, 15 högskolepoäng

Second Cycle

Confirmation

This course syllabus was confirmed by Department of Biological and Environmental Sciences on 2023-09-06 to be valid from 2023-09-06, autumn semester of 2023.

Field of education: Science 100%
Department: Department of Biological and Environmental Sciences

Position in the educational system

The course is an advanced course in biological and environmental sciences at second cycle level. The course is included in the profile Ecophysiology within the Biology Master's programme (120 credits) and in the Environmental Master's (120 credits) programmes Atmosphere, Climate and Ecosystem as well as Environmental Science (natural science), but can also be included as elective course in other Master's (120 credits) programmes at the faculty as well as be read as a freestanding course.

The course can be part of the following programmes: 1) Atmosphere, Climate and Ecosystems, Master's Programme (N2ACE), 2) Environmental Sciences (N2MVN) and 3) Biology, Master's Programme (N2BIO)

Main field of studies	*Specialization*
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

Entry requirements

At least 120 hp (credits), of which at least 30 credits in Biology as well as further 30 credits at advanced level in Biology/Environmental sciences/Chemistry/Geology/Physics, or the equivalent. English proficiency is required to the level of English 6/English Course

B from Swedish Upper Secondary School, or be certified by an internationally recognized test, for example TOEFL, IELTS.

Learning outcomes

Upon successful completion of the course, the student should have good knowledge about:

- the fundamental principles and concepts in plant ecology and their applications in ecological research
- the major ecological factors that influence the diversity and distribution of plants, plant community dynamics, and ecosystem functioning
- the ecological adaptations and strategies of plants to their environments, considering physiological, morphological, and reproductive traits
- the impacts of human activities on plant community dynamics, and how ecological theory can inform conservation efforts

The student will obtain practical skills in:

- experimental design, field sampling techniques, measurement methods in plant ecology, and implementation of project work in the field
- analysis and interpretation of ecological data, including species composition, abundance, diversity, and trait data
- critical analysis and synthesis of scientific literature in plant ecology

The course is sustainability-focused, 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. The content also constitutes the course's main focus.

Course content

The course will provide students with a comprehensive understanding of the ecological principles and processes that influence plant communities. The course content covers a range of topics, including the influence of abiotic and biotic factors on plant distribution and abundance, theories of community assembly and coexistence, functional ecology, and metacommunity ecology. Emphasis will be placed on integrating ecological theory with practical applications, such as conservation and management strategies, restoration ecology, and climate change impacts on plant communities. Students will have opportunities to engage in hands-on research projects, designing and conducting experiments, analyzing data, and communicating their findings through scientific reports and presentations.

Form of teaching

The teaching is conducted in the form of lectures, seminars, laboratory sessions, statistics tutorials, and field trips. The course is completed with a project work in groups with written and oral presentations. Except lectures, all course components are compulsory, since they develop the skills and approaches that are included in the learning objectives in a way that is not possible through self-study. The course consists of about 10 weeks the of full-time studies and is divided into two parts: theory 9 credits, project work 6 credits.

Language of instruction: English

Assessment

Examination is by written exam, active participation in seminars, individual project work, and presentation of results from laboratory and field exercises in groups. The course has compulsory elements in the form of seminars, excursions and laboratory exercises.

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

If a student has received a recommendation from the University of Gothenburg for study support for students with disabilities, the examiner may, where it is compatible with the learning outcomes of the course and provided that no unreasonable resources are required, decide to allow the student to sit an adjusted exam or alternative form of assessment.

In the event that a course has ceased or undergone major changes, students are to be guaranteed at least three examination sessions (including the ordinary examination session) over a period of at least one year, but no more than two years after the course has ceased/been changed. The same applies to internships and professional placements (VFU), although this is restricted to just one additional examination session.

Grades

The grading scale comprises: Pass with Distinction (VG), Pass (G) and Fail (U).
For the grade G on the course, at least G is required on the written exam and project work, for VG, VG is required on both written exam and project work. Detailed assessment basis for the project work is made available during the course. The written exam usually requires 60 % of the score for G and 85 % for VG.

Course evaluation

An anonymous written course evaluation is carried out at the end of the course. The results and any changes to the course structure are communicated both to the students who completed the evaluation and to the students who will start the course. The results of and possible changes to the course will be shared with students who participated in the evaluation and students who are starting the course.

Additional information

The course includes excursions and experiments that take place outdoors. Some costs may be incurred for the student in relation to these.