



DEPARTMENT OF BIOLOGICAL AND ENVIRONMENTAL SCIENCES

BIO515 Research skills in biology, 15 credits

Vetenskaplig metodik för biologer, 15 högskolepoäng

Second Cycle

Confirmation

This course syllabus was confirmed by Department of Biological and Environmental Sciences on 2023-10-10 and was last revised on 2024-02-15 to be valid from 2024-02-15, spring semester of 2024.

Field of education: Science 100%

Department: Department of Biological and Environmental Sciences

Position in the educational system

The course is an advanced course in biology at the second-cycle level that constitute a compulsory starting course for the Master's (120 credits) programme in biology.

The course can be part of the following programme: 1) Biology, Master's Programme (N2BIO)

Main field of studies

Biology

Specialization

A1N, Second cycle, has only first-cycle course/s as entry requirements

Entry requirements

At least 120 credits (credits) of which at least 60 credits in biology and of these should at least 15 credits should be specialisation in the subject and English 6/English B or an equivalent discipline.

All students who are accepted to the master's programme in biology are assessed as the qualified to read course.

Learning outcomes

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

- On the basis of given guidelines, design a realistic and clear research plan in the chosen profile area where the main question is clearly articulated and is placed in a larger context
- Integrate statistical knowledge in the design of experimental frameworks as well as in analysis and interpretation of data
- Present complex information and data in a visually attractive and informative format
- Search and critically evaluate scientific literature and present the results in writing and orally for scientific and lay audiences
- Reflect on research-ethical questions in general as well as more specific ethical questions connected to the biology subject

Course content

The course primarily intends to give a broad introduction to research methodology in biology but also to introduce the students for the different profile areas that are offered in the Master's (120 credits) programme in biology. The course gives a good preparation for continued studies in the programme.

A large part of the course focuses on writing an individual research plan. In connection with this the following subjects are covered:

- Literature search
- Text editing
- Experimental design
- Research ethics
- Safety aspects around fields and laboratory work including risk analysis

The course also includes practical and theoretical components about how to process and interpret data as well as how to present scientific findings to different audiences. The students may also practice in to give written and oral feedback on one another's assignments.

Form of teaching

The teaching is conducted through lectures, seminars/group discussions, problem-based exercises and the students' own presentations.

Language of instruction: English

Assessment

Examination occurs through written and oral presentations individually and in groups. In addition, active attendance in compulsory seminars is required. Detailed instructions and assessment criteria for the different modules of examination are available for the students from the start of the course.

Students who do not pass the written assignments at regular submission are given the opportunity to supplement their assignments afterwards. Dates for this are clarified at the beginning of the course. Students who miss oral presentations may need to wait until the next instance that the course runs for supplementary qualification.

A student who has taken two exams in a course or part of a course without obtaining a pass grade is entitled to the nomination of another examiner. The student needs to contact the department for a new examiner, preferably in writing, and this 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 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. 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).

To achieve the grade Pass in the course, at least Pass on all examining components is required. To achieve the grade Pass with distinction, Pass with distinction on the written research plan is furthermore required.

Course evaluation

On completion of the course, a written and/or oral course evaluation is carried out. A compilation of the course evaluation is sent to the "Biology student office" where it is available as a public document. The course evaluation is also distributed to all teachers that have participated in the course and should be taken into consideration when planning the next course. A summary of the course evaluation as well as highlighting of potential changes that have been done should be presented at the introduction next time the course is given.