Faculty of Science

BIOR79, Biology: Methods in Molecular Biology, 15 credits
Biologi: Molekylärbiologisk metodik, 15 högskolepoäng
Second Cycle / Avancerad nivå

Details of approval

The syllabus was approved by Study programmes board, Faculty of Science on 2016-03-16 to be valid from 2016-07-01, autumn semester 2016.

General Information

The course is an optional course for a degree of Bachelor or Master of Science in Biology and Molecular Biology.

Language of instruction: 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
Molecular Biology	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:

- in detail describe the most central methods in molecular biology
- account for the use of the most central methods in molecular biology

Competence and skills
On completion of the course the student shall be able to:

- to some extent independently apply methods in molecular biology
- plan and evaluate experiments addressing questions in molecular biology
- carry out information searches in literature databases
- present and discuss achieved results, orally and in writing

Judgement and approach
On completion of the course the student shall be able to:

- evaluate, assess and critically compare results from studies in molecular biology
- reflect on continued studies and work within the area of molecular biology

Course content

The theoretical part of the course addresses the underlying theory behind basic methods in molecular biology. Methods addressed during the course include different gene-technological methods, molecular methods for genetic analyses, detection and characterisation, methods for separation and quantification of biomolecules, and methods for modifying genetic material.

In the laboratory part of the course, some of these methods are applied. The laboratory sessions will be evaluated and linked to the theoretical parts. The students will have to some degree the possibility to independently plan and carry out experiments. Information will be given about the framework implemented for experimental work at universities, companies and public authorities (GXP and similar). During the course, a literature study is conducted, where the student performs a search in literature databases, and analyses, evaluates and presents scientific information.

Course design

The teaching consists of lectures, laboratory sessions, discussions and group assignments. Furthermore, a series of lectures is given, sometimes combined with demonstrations, to give an overview of specific molecular biological methods. Participation in laboratory sessions, discussions, group assignments and demonstrations is compulsory.

Assessment

Examination takes place as a written examination at the end of the course and through compulsory parts. 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 results of the parts that are included in the examination.

Entry requirements

For admission to the course, 120 credits of scientific studies including knowledge corresponding to 30 credits of cell- and molecular biology, 7.5 credits of microbiology, 15 credits of biochemistry, and 20 credits of chemistry. English 6/English B.

Further information

The course may not be included in a degree together with BIOR47 Methods in Molecular Biology 15 credits.

Subcourses in BIOR79, Biology: Methods in Molecular Biology

Applies from H16

1601   Theory, 7,5 hp
        Grading scale: Fail, Pass, Pass with distinction
1602   Laboratory Work, Project and Tutorials, 7,5 hp
        Grading scale: Fail, Pass