

Syllabus

for course at first level

Methods in Molecular Life Sciences

Metoder inom molekylära livsvetenskaper

7.5 Higher Education

Credits

7.5 ECTS credits

Course code:	BL4004
Valid from:	Autumn 2007
Date of approval:	2006-07-24
Department	Department of Biology Education
Subject	Biology

Decision

This syllabus has been approved by the Board of the Faculty of Science at Stockholm University.

Prerequisites and special admittance requirements

Admittance to the course requires knowledge equivalent to 30 credits in Chemistry, including a minimum of 7,5 credits in Biochemistry, and Cell and Molecular Biology 30 credits. (Three credits corresponds to approximately two weeks full-time studies).

Course structure

Examination code	Name	Higher Education Credits
4004	Genomics, Bioinformatics and Biostatistics	7.5

Course content

The course covers methods and experimental tools used in molecular cell biology for studying structure and function in eukaryotic and prokaryotic organisms. The theoretical basis for the methods and their applications in an experimental setting are presented. Relevant techniques and concepts include: recombinant DNA, studies of gene expression, large scale methods for analyses of DNA and RNA sequences, analysis of the structure of proteins and molecular complexes, use of model systems, genetic analysis, biochemical and in situ analysis of biomolecules and macromolecular complexes.

Learning outcomes

It is expected that the student after taking the course will: • show in depth knowledge of modern methods used to study the structure and function of biomolecules and macromolecular complexes • show increased skills in the relevant methods, designing experiments and critical evaluation of the results • show insight into how the methods are used in science and society.

Education

The education consists of lectures, seminars/group discussions, laboratory exercises and study visits. Participation in seminars, group discussions as well as laboratory exercises and group education associated with this is compulsory. An examiner may rule that a student is not obliged to participate in certain compulsory education if there are special grounds for this after consultation with the relevant teacher.

Forms of examination

a. Examination for the course is in the following manner: measurement of knowledge takes place through: Written and/or oral examination

b. Grading is carried out according to a 7-point scale related to learning objectives:

A = Excellent
B = Very Good
C = Good
D = Satisfactory
E = Sufficient
Fx = Fail
F = Fail

c. Grading criteria for the course will be distributed at the start of the course.

d. A minimum grade of E is required to pass the course, together with:

- approved laboratory exercises
- participation in all compulsory education.

e. Students who fail to achieve a pass grade in an ordinary examination have the right to take at least further four examinations, as long as the course is given. The term “examination” here is used to denote also other compulsory elements of the course. Students who have achieved a pass grade on an examination may not retake this examination in order to attempt to achieve a higher grade. Students who have failed to reach a pass grade on two occasions have the right to request that a different teacher be appointed to set the grade of the course. A request for such appointment must be sent to the departmental board.

Interim

Students may request that the examination is carried out in accordance with this syllabus even after it has ceased to apply. This right is limited, however, to a maximum of three occasions during a two-year-period after the end of giving the course. A request for such examination must be sent to the departmental board.

Misc

The course is a component of the Bachelor's Programmes in Molecular Biology, and it can also be taken as an individual course.

Required reading

Course literature is decided by the departmental board and is described in an appendix to the syllabus.