Department of Biology Education

Stockholm University

Syllabus

for course at advanced level

Molecular Cell Biology
Molekylär cellbiologi

15.0 Higher Education Credits
15.0 ECTS credits

Course code:	BL8019
Valid from:	Autumn 2007
Date of approval:	2006-09-27
Department	Department of Biology Education
Subject	Biology
Specialisation:	A1N - Second cycle, has only first-cycle course/s as entry requirements

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 and additionally 15 credits in Molecular Life Sciences. (Three credits corresponds to approximately two weeks full-time studies). Swedish upper secondary school course English B or equivalent or one of the following tests. Cambridge CPE och CAE: Pass. IELTS : 6.0 (with no part of the test below 5.0). TOEFL (paper based): 550 (with minimum grade 4 on the written test part). TOEFL (computer based): 213. TOEFL (internet based): 79.

Course structure

Examination code	Name	Higher Education Credits
8019	Molecular Cell Biology	15

Course content

The course covers ultra structural organisation of eukaryotic cells, cell motility, cell-cell communication, cell cycle regulation, gene expression, and differentiation. Laboratory exercises illustrate different cell biological techniques, such as cell culture techniques, fluorescence microscopy, the fractionation of macromolecules, and analyses, such as gel electrophoresis and western blot.

Learning outcomes

It is expected that the student after taking the course will be able to:
• know and account for the macro molecular organisation of eukaryotic cells and account for some molecular mechanisms of fundamental importance for the cellular life process
• apply several established techniques within the field
• plan and perform experiments in the form of projects, and critically examine, compile, and present results obtained
• critically examine literature within the research field and subsequently compile and present in a scientific manner.

Education

The education consists of lectures, seminars, laboratory project work as well as written and oral

presentations.
Participation in lectures, seminars, laboratory project work as well as written and oral presentations 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 oral presentations.

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:
•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.

Limitations

The course may not be included in a degree together with the course Cell Biology 10 p (BI3200) or the equivalent.

Misc

The course is a component of the Master's Programme in Biology and Molecular Life Sciences, 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.