Department of Biology Education

Stockholm University

Syllabus

for course at advanced level

Molecular Physiology
Molekylär fysiologi

15.0 Higher Education Credits
15.0 ECTS credits

Course code:	BL7043
Valid from:	Autumn 2015
Date of approval:	2015-08-21
Department	Department of Biology Education
Main field:	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 7,5 credits in Biochemistry, Cell and Molecular Biology 27 credits and Physiology 15 credits (including experimental animals), alternatively, 60 credits in Chemistry and a minimum of 15 credits in Biochemistry or 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
MOM1	Theory	7.5
MOM2	Project	7.5

Course content

The course covers advanced knowledge of physiology at the molecular level and consists of the following parts. Advanced general physiology: covers neurophysiology, excretion, endocrinology, circulation, muscle physiology, sensory physiology, temperature regulation, respiration, digestion and nutrition. Advanced physiology: covers certain areas of physiology in more detail, e.g. signal transduction, ion channels, gene expression and gene manipulation, relationship between central and peripheral regulation, cell development, brown adipose tissue, obesity, hibernation, thermal control in neonates and fever. Applied physiology: covers methods, interpretation of results and presentation techniques. Laboratory project with relation to ongoing research in the department.

Learning outcomes

It is expected that the student after taking the course will be able to:
• demonstrate advanced knowledge about the different subdivisions of physiology, including the regulation of physiological processes at different levels of organisation • show insight into the empirical character of the subject • understand and analyze research results • work laboratory techniques common to the subject.

Education

The education consists of lectures, laboratory exercises, seminars and demonstrations.
Participation in laboratory exercises, seminars, demonstrations, 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 for element 1 takes place through: written examination and for element 2 through written and oral presentations.

If the instruction is in English, the examination may also be conducted in English.

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.

e. Students who fail an ordinary examination are entitled to sit additional examinations as long as the course is offered. There is no restriction on the number of examinations. Examinations also include other obligatory elements of the course. Students who have passed an examination may not resit it in order to achieve a higher grade. Students who have failed on two occasions are entitled to request the appointment of a different examiner for the next examination. Any such request must be made to the departmental board. The course has at least two examinations (if required: for each element) for each academic year in the years in which instruction is provided. Intervening years include at least one examination.

f. f. Students awarded the grade Fx are given the opportunity to improve their grade to E. The examiner decides the supplementary assignments to be performed and the pass mark criteria. The supplementary assignments will take place before the next examination session.

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 can not be included in a degree together with the course Molecular physiology 15 credits(BL5015)) or the equivalent.

Misc

The course is part of the Master's Programme in Biology and Molecular Life Sciences, but can also be read as a separate course.

Required reading

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