



# Syllabus

for course at first level

**Molecular Physiology**

**Molekylär fysiologi**

**15.0 Higher Education**

**Credits**

**15.0 ECTS credits**

<b>Course code:</b>	BL5015
<b>Valid from:</b>	Autumn 2008
<b>Date of approval:</b>	2006-09-27
<b>Changed:</b>	2008-04-07
<b>Department</b>	Department of Biology Education
<b>Subject</b>	Biology
<b>Specialisation:</b>	G2F - First cycle, has at least 60 credits in 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 Physiology 15 credits (including experimental animals), alternatively, 60 credits in Chemistry and a minimum of 15 credits in Biochemistry or Molecular Life Sciences.

## Course structure

Examination code	Name	Higher Education Credits
5015	Molecular Physiology	15

## Course content

The course covers physiology at the molecular level and consists of the following parts. 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 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, demonstrations and study visits. Participation in laboratory exercises, seminars, demonstrations, study visits 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 as well as written and/or 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

F<sub>x</sub> = 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.

### **Limitations**

The course can not be included in a degree together with the course Physiology: Cellular and molecular aspects 10 p (BI3620) or the equivalent.

### **Misc**

The course is a component of the Bachelor's Programmes in Biology and 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.