

# Syllabus

for course at first level

**Cell and Molecular Biology**  
**Cell- och molekylärbiologi**

**15.0 Higher Education**  
**Credits**  
**15.0 ECTS credits**

<b>Course code:</b>	BL2012
<b>Valid from:</b>	Autumn 2007
<b>Date of approval:</b>	2006-09-27
<b>Department</b>	Department of Biology Education
<b>Subject</b>	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 basic eligibility and knowledge equivalent to Swedish upper secondary school courses General Science B and Mathematics C.

## Course structure

Examination code	Name	Higher Education Credits
2A12	Molecular Cell Biology and Genetics	10.5
2B12	Microbiology	4.5

## Course content

a. The course covers basic cell biology, molecular biology, genetics and microbiology  
b. The course includes the following elements: Molecular Cell Biology and Genetics (Molekylär cellbiologi och Genetik) 10.5 credits. Cell organization and function. Processes in molecular biology from DNA to protein in prokaryotic and eukaryotic cells. Gene technology: basic methods, analyses and applications. Human genetic diseases. Microbiology (Mikrobiologi) 4.5 credits. Structure and diversity of microorganisms with emphasis on bacteria, archaea and virus. The role of microorganisms in ground and water as well as interactions with animals and plants. Microorganisms and man.

## Learning outcomes

It is expected that the student after taking the course will be able to: • show basic knowledge in cell biology, molecular biology, genetics and microbiology • give examples of genetic patterns and processes on the cell and organism level • show skills in work with methods in cell and molecular biology as well as aseptic work • show knowledge of the ethic rules and laws surrounding the use of gene technology.

## Education

The education consists of lectures, group education, laboratory exercises, demonstrations, study visits and individual projects.

Participation in group education, laboratory exercises, demonstrations, study visits as well as individual projects 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 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:

- 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 courses Biology 45 p (BI1100), Molecular Cell Biology 5 p (BIA160), Mikrobiology 3 p (BI1120), Genetics and evolution 5 p (BIA170), Cell and Molecular Biology in the Biology-Earth Sciences Programme 7 p (BI1690), Genes, Cells and Populations 15 hp (BL2011), Biology 40 p (BI1880), Cell and Molecular Biology 10 p (BI2280), Cell and Molecular Biology 20 p (BI2000), Prokaryotic Cell and Molecular Biology 4 p (BI2260), Molecular Cell Biology 9 p (BI2230), Genetics 5 p (BI2240) or the equivalents.

### **Misc**

The course is given as an individual course.

### **Required reading**

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