Syllabus

for course at advanced level

Applied Bioinformatics
Tillämpad bioinformatik

7.5 Higher Education Credits
7.5 ECTS credits

Course code:	DA7021
Valid from:	Autumn 2008
Date of approval:	2008-05-19
Department	Department of Mathematics (incl. Math. Statistics)
Subject	Informatics/Computer and Systems Sciences
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, May 19, 2008.

Prerequisites and special admittance requirements

For course admission knowledge equivalent to the following is required: Bioinformatics, SL, 7.5 HECs (KB7004), 9 HECs in within the Computer Science area, and English B.

Course structure

Examination code	Name	Higher Education Credits
LABO	Practical Exercises	4.5
PROJ	Project	3

Course content

a. The course aims to introduce techniques for meeting the challenge in molecular biology brought by the use of bioinformatics. Bioinformatics has become an important tool for handling and utilizing the large sets of valuable data produced. Computerized analysis has a role both as support for wet-lab projects and as a means of extracting knowledge from already available datasets. However, the fast-growing amount of data makes it necessary to be able to automate analysis and make analysis on a very large scale.

b. The course includes the following elements:
• Practical Exercises, 4.5 HECs
• Project, 3 HECs

Learning outcomes

It is expected that the student after taking the course will be able to:
• structure data for efficient computerized storage and analysis
• use and create relational databases
• use a scripting language to solve every-day problems in Bioinformatics
• use important Bioinformatic software libraries to quickly find solutions for tedious programming problems

Education

The education consists of lectures and practical exercises.

Forms of examination

a. Examination for the course is in the following manner: measurement of knowledge of the element Practical Exercises takes place through 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
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 pass of the element Project.

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 Master's Programme in Bioinformatics, 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.