BB2440 Bioinformatics and Bio-statistics 7.0 credits

Bioinformatik och biostatistik

This is a translation of the Swedish, legally binding, course syllabus.

Establishment

Course syllabus for BB2440 valid from Autumn 2016

Grading scale

A, B, C, D, E, FX, F

Education cycle

Second cycle

Main field of study

Biotechnology

Specific prerequisites

**Admission requirements for programme students at KTH:
**At least 150 credits from grades 1, 2 and 3 of which at least 100 credits from years 1 and 2, and bachelor's work must be completed. The 150 credits should include a minimum of 20 credits within the fields of Mathematics, Numerical Analysis and Computer Sciences, 5 of these must be within the fields of Numerical Analysis and Computer Sciences, 20 credits of Chemistry, possibly including courses in Chemical Measuring Techniques and 20 credits of Biotechnology or Molecular Biology.

**Admission requirements for independent students:
**A total of 20 university credits (hp) in Biotechnology or Molecular Biology. 20 credits of

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Chemistry, possibly including courses in Chemical Measuring Techniques and 20 credits within the fields of Mathematics, Numerical Analysis and Computer Sciences, 5 of these must be within the fields of Numerical Analysis and Computer Sciences, Documented proficiency in English corresponding to English B.

Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

Intended learning outcomes

This is an introductory course in bioinformatics and biostatistics. After passing the course, the student should:

- know the theory behind fundamental bioinformatics analysis methods.
- be familiar with widely used bioinformatics databases.
- know basic concepts of probability and statistics.
- be able to describe statistical methods and probability distributions relevant for molecular biology data.
- know the applications and limitations of different bioinformatics and statistical methods.
- be able to perform and interpret bioinformatics and statistical analyses with real molecular biology data.

Course contents

Disposition

The course consists of lectures and computer-based laboratory exercises.

Course literature

Zvelebil and Baum, Understanding Bioinformatics (2007), Garland Science

Biostatistics: The Bare Essentials. G. R. Norman and D. L. Streiner. (B.C. Decker, 3rd edition)

Listan kan komma att ändras. Ändringar kommer att annonseras på kursens hemsida senast fyra veckor före kursstart.

Examination

- TEN1 - Written Examination, 5.0 credits, grading scale: A, B, C, D, E, FX, F

• LAB1 - Laboratory Work, 2.0 credits, grading scale: P, F

Based on recommendation from KTH's coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability.

The examiner may apply another examination format when re-examining individual students.

If the course is discontinued, students may request to be examined during the following two academic years.

Other requirements for final grade

TEN1 – Written examination, 5.0 credits, grade scale: A, B, C, D, E, FX, F

LAB1 – Laboratory work, 2.0 credits, grade scale: P, F

Ethical approach

• All members of a group are responsible for the group's work.
• In any assessment, every student shall honestly disclose any help received and sources used.
• In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.