CB2442 Bioinformatics 7.5 credits

Bioinformatik

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

Establishment

Course syllabus for CB2442 valid from Autumn 2023

Grading scale

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

Education cycle

Second cycle

Main field of study

Biotechnology

Specific prerequisites

Minst 150 högskolepoäng från årskurs 1, 2 och 3 varav minst 100 högskolepoäng från årskurs 1 och 2 samt kandidatexamensarbete måste vara avklarade. I de 150 poängen skall ingå avklarade kurser motsvarande minst 20 hp matematik, numeriska metoder, data, varav minst 5 hp utgörs av numeriska metoder och data, samt minst 15 hp totalt inom bioteknik, biokemi, och/eller molekylärbiologi

Language of instruction

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

Intended learning outcomes

After passing the course the student should be able to:

- explain basic bioinformatic methods
- give an account of applications and limitations of bioinformatic methods
- use relevant methods to analyze bioinformatic problems
- interpret the results of bioinformatic analyzes
- program basic bioinformatic algorithms

Course contents

Theory and methods for: pairwise alignment of DNA/RNA and protein sequences; multiple sequence alignment; analysis of DNA/RNA and protein sequence motivs; phylogenetic analysis; gene expression analysis. Public data bases and tools. Programming basic bioinformatic algorithms.

Examination

- LAB1 - Computer exercises, 2.5 credits, grading scale: P, F
- TEN1 - Written exam, 5.0 credits, grading scale: A, B, C, D, E, FX, 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.

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.