FDD3450 Algorithmic Bioinformatics 6.0 credits

Algoritmisk Bioinformatik

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

Establishment

Course syllabus for FDD3450 valid from Spring 2016

Grading scale

G

Education cycle

Third cycle

Specific prerequisites

Language of instruction

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

Intended learning outcomes

The student should, on completion of the course, be able to

â€¢ account with own words for important computing problems in bioinformatics: pairwise sequence comparisons, multiple alignment, composition of genetic material, phylogeny, hidden Markov models;

â€¢ implement the algorithms that are described in the course and describe how they relate to one another;

â€¢ teach about the algorithms that are described in the course;

â€¢ identify and formalise computational problems in biology;

â€¢ apply the basic algorithm design methods, such as as dynamic programming within bioinformatics;

â€¢ account for the modelling principles parsimony and Bayesian modelling;

Course contents

Algorithms for problems such as alignment, phylogeny, sorting by reversals, an introduction to hidden Markov chains.

Course literature

Articles, unless otherwise announced before the start of the course.

Examination

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

Project and home assignments. Presentation of research results.

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.