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Course syllabus for

Bioinformatics, 5.5 credits

Bioinformatik, 5.5 hp
This course has been cancelled, for further information see Transitional provisions in the last version of the syllabus.
Please note that the course syllabus is available in the following versions:
Spring2012 , Spring2017 , Spring2020

Course code	4BI084
Course name	Bioinformatics
Credits	5.5 credits
Form of Education	Higher Education, study regulation 2007
Main field of study	Biomedicine
Level	AV - Second cycle
Grading scale	Fail (U), pass (G) or pass with distinction (VG)
Department	Department of Medical Biochemistry and Biophysics
Decided by	Programnämnd 7
Decision date	2011-11-25
Course syllabus valid from	Spring 2012

Specific entry requirements

Bachelors degree or professional qualification worth at least 180 credits in biomedicine, biotechnology, cellular and molecular biology or medicine.

Objectives

On completion of the course the student should be able to: explain and describe theories and methods that are used within bioinformatics, account for how bioinformatics methods are used within biomedical research, use different bioinformatics technologies, analyse bioinformatics data, critically assess and evaluate which methods that should be used to solve specific bioinformatics issues.

Content

The course treats both sequence related and non-sequence related bioinformatics including databases, handling of sequence data, pair-wise alignment, multiple alignment and phylogeny. Furthermore the course treats: bioinformatics portals and different search engines, patterns and motives for DNA and proteins, profile searches and structure predictions, molecular modelling with ligand dockings, enzyme databases as well as microarray and gene ontology data, A short background is given to the algorithms that are used in the different programs.

Teaching methods

The teaching includes lectures, demonstrations and group- and data practicals with written assignments. The data analyses will be carried out using web-based programs.

Examination

The course is examined through a written examination. Compulsory participation No compulsory attendance, but all tasks and written assignments must be passed. Attendance on lectures and exercises are strongly recommended. Limited number of examinations or practical training sessions Students who have not passed the regular examination are entitled to participate in five more examinations. If the student is not approved after four examinations, he/she is recommended to retake the course at the next regular course date, and may, after that, participate in two more examinations. If the student has failed six examinations/tests, no additional examination or new admission is provided. The number of times that the student has participated in one and the same examination is regarded as an examination session. Submission of a blank examination is regarded as an examination. An examination for which the student registered but not participated in, will not be counted as an examination.

Transitional provisions

After each course occasion there will be at least six occasions for the examination within a 2-year period from the end of the course.

Other directives

The teaching is given in English. Course evaluation will be carried out in accordance with the guidelines established by the Board of Education.

Literature and other teaching aids

Zvelebil, Marketa J.; Baum, Jeremy O.
Understanding bioinformatics

New York : Garland Science, c2008. - xxiii, 772 p.
ISBN:978-0-8153-4024-9 (pbk.) LIBRIS-ID:10724573
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