



LUND
UNIVERSITY

Faculty of Science

BINP39, Bioinformatics: Research Project, 30 credits

Bioinformatik: Forskningsprojekt, 30 högskolepoäng

Second Cycle / Avancerad nivå

Details of approval

The syllabus was approved by Study programmes board, Faculty of Science on 2017-02-13 to be valid from 2017-02-13, autumn semester 2017.

General Information

The course is an elective course for a degree of Master of Science in Bioinformatics.

Language of instruction: Swedish and English

The course is given in English, but can be given in Swedish if the student is Swedish-speaking.

Main field of studies

Bioinformatics

Depth of study relative to the degree requirements

A1F, Second cycle, has second-cycle course/s as entry requirements

Learning outcomes

The main aim of the course is that the student shall, with some independence, plan and carry out a part of a research project. The student shall be able to reflect on the research process and understand its requirements and difficulties. The course is also aimed to increase the student's interest in research. At the same time, the student shall gain an advanced professional experience, obtain extensive experience of work related to bioinformatics, and get in contact with potential future employers.

Knowledge and understanding

On completion of the course the student shall be able to:

- account for background, planning and research process in a bioinformatics project

- describe how bioinformatics research can be carried out in practice
- account for bioinformatics work tasks in detail

Competence and skills

On completion of the course the student shall be able to:

- plan, with some independence, a part of a bioinformatics research project
- process, with some independence, a problem in the bioinformatics domain
- work according to a time plan
- present orally and in writing a part of a research project in a detailed and scientific way

Judgement and approach

On completion of the course the student shall be able to:

- reflect over ethical and safety aspects of a bioinformatics project
- reflect on his/her education in relation to requirements and needs of research

Course content

The course includes planning, implementation and presentation of a part of a research project. The project shall have a connection to the bioinformatics education.

Course design

The student shall contact a workplace or research group and find a supervisor. The work can be carried out at the university or at a company. The course is planned by the student in consultation with the supervisor. The student writes a project plan, including a time plan, as well as ethical and safety aspects of the project. The project plan must be accepted by the examiner of the course. The project work shall be equivalent to 90 working days á8 hours. How the work tasks are carried out should continuously be documented in electronic form. When the project is finished, a scientific report including introduction, method, results, discussion and list of references, shall be written. Other work documents can be enclosed to this report. The project shall also be presented orally. The student must deliver his/her notes from the work, and files that may be of interest, to the supervisor or to the research group. Active participation in the project, written project plan, written project report and oral presentation, are compulsory.

Assessment

Examination takes place through approved participation during the project period as well as approved compulsory parts of the project. The report shall be delivered to the examiner no later than two weeks after the completion of the project.

Subcourses that are part of this course can be found in an appendix at the end of this document.

Grades

Marking scale: Fail, Pass, Pass with distinction.

To pass the course, active participation in the project, as well as approved project plan, approved project report and approved oral presentation, are required. To pass with distinction, a high-quality report, a well performed oral presentation, and a research project carried out with high quality and high degree of independence, are required.

Entry requirements

For admission to the course, knowledge equivalent to BINP11 Bioinformatics and sequence analysis is required, 7.5 credits, BINP16 Programming in Python, 7.5 credits, BIOS13 Modelling of biological systems, 7.5 credits, BIOS14 Processing and analysis of biological data, 7.5 credits, BINP26 DNA Sequence Informatics I, 7.5 credits as well as BINP27 DNA Sequence Informatics II, 7.5 credits. English B/6.

Subcourses in BINP39, Bioinformatics: Research Project

Applies from H17

1701 Research Project, 30,0 hp
Grading scale: Fail, Pass, Pass with distinction