



**LUND**  
UNIVERSITY

Faculty of Science

## **BINP35, Bioinformatics: Research Project, 7.5 credits**

*Bioinformatik: Forskningsprojekt, 7,5 högskolepoäng*

Second Cycle / Avancerad nivå

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### **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 the background, planning, and research process of 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 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:

- be aware of 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 20 working days á 8 hours. How the work tasks are carried out should continuously be documented in electronic form. When the project is finished, a report including introduction, method, results, discussion, and list of references, shall be written. Other work documents can be enclosed to such report. 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, a written project plan, and a written project report, 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 and approved project report, are required. To pass with distinction, a high-quality report, and a research project carried out with high quality and high degree of independence, are required.

## Entry requirements

For admission to the course, knowledge corresponding to BINP11 Bioinformatics and Sequence Analysis 7.5 credits, BINP16 Programming in Python 7.5 credits, BIOS13 Modelling Biological Systems 7.5 credits, BIOS14 Processing and Analysis of Biological Data 7.5 credits, BINP26/BINP28 DNA Sequence Informatics I 7.5 credits, as well as BINP27/BINP29 DNA Sequence Informatics II 7.5 credits, is required. English B/6.

## Subcourses in BINP35, Bioinformatics: Research Project

Applies from H17

1701 Research Project, 7,5 hp  
Grading scale: Fail, Pass, Pass with distinction