UNIVERSITY OF SKÖVDE

TRANSLATION FROM SWEDISH

COURSE SYLLABUS

Bioinformatics Concepts and Methods A1N

7.5 credits

Course code: BI767A
Version number: 2
Valid from: 1 January 2026
Ratified by: Curriculum Committee for Bioscience
Date of ratification: 14 August 2025

1. General information about the course

The course is provided by the University of Skövde and is named Bioinformatics Concepts and Methods A1N (Bioinformatiska koncept och metoder A1N). It comprises 7.5 credits and is a second-cycle course. The level of progression is A1N.

The course is a part of the main field of study in Bioinformatics. It can also be a part of the main field of study in Bioscience and Systems Biology. The disciplinary domain of the course is Natural Sciences.

2. Entry requirements

The course has the following entry requirements: a total of at least 90 passed credits in one or some of the subjects of Biology, Medicine or Computer Science. Of these 90 credits, at least 15 credits must be on the level of progression G2F (or the equivalent).

An additional requirement is proof of skills in English equivalent of studies at upper secondary level in Sweden, known as the Swedish course English 6 or English level 2. This is normally demonstrated by means of an internationally recognized language test, e.g. IELTS or TOEFL or the equivalent.

3. Course content

The course provides an in-depth understanding of central concepts, problems and current research areas in bioinformatics. Students gain knowledge about different types of biological data used in the field, including how this data is generated and collected. An important part of the course is learning to use central public databases, understanding their structure, areas of application and limitations. Through practical elements, students are trained in using bioinformatics methods and tools to process and analyze biological data. Critical evaluation and compilation of results is a central part of the work. The focus is on integrating theoretical knowledge with practical skills in order to be able to interpret and apply bioinformatics in various research and application contexts.

4. Objectives

After completed course the student should be able to:

- explain in depth central concepts, problems and current research and application areas within bioinformatics,
- describe the most common types of biological data of relevance to bioinformatics and how these are generated and collected,
- independently use central public databases of relevance to bioinformatics and describe their structure, areas of use and limitations, and
- use bioinformatics methods and tools to process, critically analyse and compile biological data of relevance to bioinformatics.

5. Examination

The course is graded A (Excellent), B (Very good), C (Good), D (Satisfactory), E (Sufficient) or F (Fail).

Grades for the entire course are only issued when all examination components have been passed and are determined by the grade for the Supervised written examination.

The examinations of the course consist of the following modes of assessment:

- **Written assignment**
  1 credit, grades: G/U
- **Supervised written examination**
  6.5 credits, grades: A/B/C/D/E/F (determines the final grade)

Students with a permanent disability who have been approved for directed educational support may be offered adapted modes of assessment.

6. Types of instruction and language of instruction

The teaching is comprised of lectures, supervision and laboratory sessions.

The teaching is conducted in English.

7. Course literature and other educational materials

Scientific articles and web material. They are reported on a special list provided by the Course Coordinator.

8. Student influence

Student influence in the course is ensured by means of course evaluation. The students are informed about the results of the evaluation and potential measures that have been taken or are planned, based on the course evaluation.

9. Additional information

Further information about the course, as well as national and local governing documents for higher education, is available on the website of the University of Skövde.