UNIVERSITY OF SKÖVDE

TRANSLATION FROM SWEDISH

COURSE SYLLABUS

Bioinformatic Analysis with Python 1 G1N

7.5 credits

Course code: BI121G
Version number: 10
Valid from: 1 January 2026
Ratified by: Curriculum Committee for Bioscience
Date of ratification: 22 May 2025

1. General information about the course

The course is provided by the University of Skövde and is named Bioinformatic Analysis with Python 1 G1N (Bioinformatisk analys med Python 1 G1N). It comprises 7.5 credits and is a first-cycle course. The level of progression is G1N.

The course is a part of the main field of study in Bioinformatics. The disciplinary domain of the course is Natural Sciences.

2. Entry requirements

General entry requirements.
Additional requirements: Biology 1, Mathematics 2a or 2b or 2c
Or:
Biology level 1, Mathematics level 2a or level 2b or level 2c.

3. Course content

The course provides knowledge about procedural programming in the programming language Python, with the aim of solving simpler bioinformatic problems. The course contains both theoretical and practical background knowledge for procedural programming in the language Python. Covered theory and practice is concretized with a number of exercises and assignments.

4. Objectives

After completed course the student should be able to:

- describe the basic principles of procedural programming,
- describe and use basic syntax for the programming language Python,
- in a structured way analyze and break down simpler problems into smaller sub-problems, as a basis for implementing functions in Python,
- based on a general description of a bioinformatic problem, create a program in Python that solves the problem,
- give examples of bioinformatic analyzes that can be performed with programs developed in Python.

5. Examination

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

A final grade of the course is only issued when all the examination parts have been passed and is determined by a weighted average of the grades for the three written assignments. The average value is rounded to the nearest integer (half rounded up) and translated into a final grade of the course.

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

- **Written assignment 1**
  1.5 credits, grades: A/B/C/D/E/F
- **Written assignment 2**
  3 credits, grades: A/B/C/D/E/F
- **Written assignment 3**
  3 credits, grades: A/B/C/D/E/F

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, exercises, supervision, exercises and lectures.

The teaching is conducted in English.

7. Course literature and other educational materials

Articles and compendium material will be 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.