



UNIVERSITY  
OF SKÖVDE

## COURSE SYLLABUS

# Bioinformatic analysis with Python 2 G1F

7.5 credits

**Course code:** BI320G

**Version number:** 3

**Valid from:** 1 July 2021

**Ratified by:** Curriculum Committee for Bioscience

**Date of ratification:** 26 November 2020

## 1. General information about the course

The course is provided by the University of Skövde and is named Bioinformatic analysis with Python 2 G1F (Bioinformatisk analys med Python 2 G1F). It comprises 7.5 credits and is a first-cycle course. The level of progression is G1F.

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

The course has the following entry requirements: passed BI121G Bioinformatic Analysis with Python 1 G1N and passed BI119G Introduction to Bioinformatics G1N .

## 3. Course content

The course gives further knowledge about programming in the language Python, with the aim of solving bioinformatic problems and performing commonly occurring bioinformatic analyses. The course includes both theoretical and practical background knowledge for object-oriented programming in Python. The student will learn to apply a systematic and principled approach to design and implement programs in Python, and also to include code written in other languages, as well as libraries and applications from Biopython. The taught theory and practice is implemented in exercises and assignments.

## 4. Objectives

After completed course the student should be able to:

- write programs in Python that include code from Biopython to perform bioinformatic analyses,
- apply commonly used strategies to develop more efficient code,
- develop programs in Python that use regular expressions to solve bioinformatic problems,
- describe and explain the fundamental concepts of object-oriented programming,
- write programs in Python that include code written in other programming languages, and
- develop programs in Python that visualize results from bioinformatic analyses.

## 5. Examination

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

TRANSLATION FROM SWEDISH

The final grade of the course is determined by the weighted average of the grades of the two written assignments; A=5, B=4, C=3, D=2 och E=1. The average value is rounded to the nearest integer (half rounded up) and translated into a final grade according to 5=A, 4=B, 3=C, 2=D and 1=E.

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

- **Written Assignment 1**  
3.5 credits, grades: A/B/C/D/E/F
- **Written Assignment 2**  
4 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 or alternative modes of assessment.

## **6. Types of instruction and language of instruction**

The teaching is comprised of lectures and exercises.

The teaching is conducted in English.

## **7. Course literature and other educational materials**

The literature for the course consists of lecture slides and lecture notes, exercises, and other study material that will be made available on the course site.

## **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.