1 Name, Scope and Level of the Course

The course is provided by the University of Skövde and is named Bioinformatic Analysis with Python 1 G1N. It comprises 7.5 credits and is on basic level. The level of progression of the course is G1N.

2 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,
- interpret and create pseudocode for simpler algorithms,
- in a structured way analyze and break down simpler problems into smaller sub-problems, as a basis for writing pseudocode and 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.

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 Forms of Teaching

The teaching comprises lectures, supervision and exercises. For distance courses/programmes, the teaching comprises lectures, supervision and exercises.

The teaching is conducted in English.

5 Examination

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

The final grade of the course is determined by the average from the grades for all written assignments; A=5, B=4, C=3, D=2 and 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.

Registration of examination results:

<table>
<thead>
<tr>
<th>Name of examination</th>
<th>Credits</th>
<th>Grading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written assignment 1</td>
<td>1.5 credits</td>
<td>A/B/C/D/E/F</td>
</tr>
<tr>
<td>Written assignment 2</td>
<td>2 credits</td>
<td>A/B/C/D/E/F</td>
</tr>
<tr>
<td>Written assignment 3</td>
<td>2 credits</td>
<td>A/B/C/D/E/F</td>
</tr>
<tr>
<td>Written assignment 4</td>
<td>2 credits</td>
<td>A/B/C/D/E/F</td>
</tr>
</tbody>
</table>

Students with a permanent disability who have been approved for special educational support may be offered adapted or alternative examinations.
6 Admission Requirements
The special prerequisite for this course, besides basic eligibility for university studies, is field eligibility A14/15: Civics 1b / 1a1 +1a2, Mathematics 2a / 2b / 2c, Science studies 2 or Civics A, Mathematics B, Science studies B (or the equivalent).

7 Subject, Main Field of Study and Disciplinary Domain
The course forms a part of the academic subject area of Bioinformatics. The course is a part of the main field of study in Bioinformatics at the University of Skövde. The disciplinary domain of the course is Natural Sciences.

Every course at the University of Skövde belongs to a subject. The division of subjects is used for follow-up and quality assurance. A main field of study is an area in which a degree can be awarded. Disciplinary domain is a division which is used by the government for the allocation of resources for studies at basic level and advanced level.

8 Approval of Course and Course Syllabus
The course was approved by the Curriculum Committee for Bioscience on 28 November 2019. This course syllabus was approved by the Curriculum Committee for Bioscience on 26 March 2020. It is valid from 1 January 2021 and replaces the course syllabus approved 28 November 2019.

9 Overlapping with Another Course
This course cannot constitute a part of a degree also containing a course the content of which is totally or partly equivalent to the content of this course.

10 Additional Information
Further information will be available on the university’s website before a course is given.

National and local regulations for higher education are available on the university’s website.

Upon completion of the course there will be a follow-up. The main purpose of this follow-up is to contribute to improvements of the course. The students’ experiences and views constitute one of the criteria for the follow-up and are gathered by means of course evaluations. The students will be informed of the results of the follow-up and any decisions regarding actions that are to be taken.

11 Course Literature and Other Educational Materials
Articles and compendium material will be provided by the course coordinator.