Course: The Bioinformatics Toolbox — credits: 10

Course code	BFVP22TOOLBOX
Name	The Bioinformatics Toolbox
Study year	2025-2026
ECTS credits	10
Language	Dutch, with parts in English
Coordinator	R. Wedema
Modes of delivery	Lecture Project-based learning Tutorial
Assessments	- Other assessment

Learning outcomes

This module has the following learning outcomes

- You correctly and efficiently use Object Oriented Programming in Python

- You create a website using a provided library

- You use common tooling to develop Python programmes; these include Debugger, Version Control, Unit Test and profiling.

- You work in teams on software, using agile methodologies

You independently install a bioinformatics application on your own system and can call it from another process

Content

This is a large, 10 EC project in which you will work on researching and unlocking a technique/datatype common within bioinformatics.

Together with the class, you will research which techniques and associated data types are commonly used in the bioinformatics field. In a smaller group, you will choose a technique and investigate it further and make it accessible in a website made with Python. In this website, you not only present the background information, but also implement your chosen technique and visually display your results. That is, you choose and implement a suitable and appealing visualisation for the output of the chosen tool.

In the software design process, you apply object oriented programming concepts.

You make use of an interface (API) defined by the teachers, e.g. Flask, to develop the website.

To manage the code you write, you will use a version control system (git).

In consultation with the lecturer, you will set milestones and work towards them in a targeted manner. You will do this using the agile methodology (scrum). Working with a ticketing system to distribute and prioritise partial problems is also part of this.

Included in programme(s)

Bio-Informatics

School(s)

Institute for Life Science & Technology

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