Course: Programming 2 — credits: 5

Course code	BFVM23PROGRAM2
Name	Programming 2
Study year	2026-2027
ECTS credits	5
Language	English
Coordinator	-
Modes of delivery	Assignment Lecture
Assessments	Programming 2 - Assignment

Learning outcomes

1. Apply Python, Numpy and pandas to effectively clean, transform, and structure raw data into a format suitable for analysis, demonstrating.
1. Evaluate and choose appropriate data exploration, processing, analysing and visualization methods. Critically assess trade-offs between different strategies and justify the chosen approach.
1. Design and develop functional and visually appealing data visualizations that effectively communicate insights and finding of categorical and non-time related data. Create interactive and informative visualizations.
1. Demonstrate the ability to create a well-organized and well-documented codebase, with clear separation of concerns and modular components, all managed through a Git repository.

Content

This course is designed to provide practical skills for processing and analyzing data, preparing it for modeling and visualization. You will learn to work with data science tools such as Jupyter Notebooks, NumPy, Pandas, Matplotlib, and Bokeh.
Each week, you will practice programming techniques for loading, cleaning, analyzing, and visualizing different types of data, mostly focused on numerical and categorical data.
You will explore best practices for organizing and documenting to ensure that it remains readable, understandable, and reusable over time.
By the end of this course, you will have a solid understanding of the data processing pipeline and be able to use these tools and techniques to handle diverse datasets, conduct exploratory data analysis, and create effective visualizations.

Included in programme(s)

Master Data Sciences for the Life Science

School(s)

Engineering, Life Sciences & ICT

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