GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	FUNDAMENTAL OF PROGRAMMING, PG_00063457		
Field of study	Biotechnology		
Date of commencement of studies	October 2024	Academic year of realisation of subject	2024/2025
Education level	second-cycle studies	Subject group	Obligatory subject group in the field of study Subject group related to scientific research in the field of study
Mode of study	Full-time studies	Mode of delivery	at the university
Year of study	1	Language of instruction	Polish
Semester of study	2	ECTS credits	1.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Department of Pharmaceutical Technology and Biochemistry -> Faculty of Chemistry		
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. inż. Marek Wojciechowski	
	Teachers	dr hab. inż. Marek Wojciechowski	

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	0.0	0.0	15.0	0.0	0.0	15

E-learning hours included: 0.0

Learning activity and number of study hours

Learning activity	Participation in didactic classes included in study plan	Participation in consultation hours	Self-study	SUM
Number of study hours	15	3.0	7.0	25

Subject objectives

The aim of the course is to familiarize students with the basics of programming and good programming practices. During the classes, students learn how to prepare an algorithm that can be later encoded in a specific programming language.. Students learn to work in an integrated development environment (IDE) and to use this environment to identify and correct errors in created programs. As part of the course, students write simple programs to help solve bioinformatics problems.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K7_K02] is aware of the potential risks and opportunities associated with the development of science and technology for the natural environment and society	Student is aware of the rapid development of this field of science and understands the necessity of continuously updating his knowledge	[SK5] Assessment of ability to solve problems that arise in practice
[K7_U06] plans research and designs biotechnological products and processes taking into account legal regulations and bioethical principles	Student knows how to present a solution to a given problem in the form of an algorithm and is able to write it as a program in the Python programming language; The student is able to test the correctness of the program and detect and eliminate any errors.	[SU1] Assessment of task fulfilment

Subject contents

The basics of programming. Structured and object-oriented programming. Python programming basics. Using libraries, in particular the Biopython library to perform specific bioinformatics tasks

Prerequisites and co-requisites

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
practical project	60.0%	100.0%

Recommended reading

Basic literature	Learning Python, 5th Edition, Mark Lutz, 2022, O'Reilly

	Supplementary literature	Educational materials provided by the lecturer Dive into python http://wikobooks.org
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed	preparation of a python script for basic protein structure analysis based on the PDB files	
Work placement	Not applicable	

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