



Subject card

Subject name and code	FUNDAMENTAL OF PROGRAMMING, PG_00063457						
Field of study	Biotechnology						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2025/2026		
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 -> Wydział Politechniki Gdańskiej						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. inż. Marek Wojciechowski				
	Teachers						
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_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		
	[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		
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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