

Subject card

Subject name and code	Introduction to Programming, PG_00193512						
Field of study	Bioinformatics						
Date of commencement of studies	October 2026		Academic year of realisation of subject		2026/2027		
Education level	Bachelor's studies		Subject group		Obligatory subject group 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	1		ECTS credits		7.0		
Learning profile	academic		Assessment form		credit		
Conducting unit	Institute of Informatics -> Faculty of Mathematics, Physics and Informatics -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr Jakub Neumann				
	Teachers		prof. dr hab. Marcin Wieśniak, prof. UG				
			dr Jakub Neumann				
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	45.0	0.0	0.0	60
	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	60		0.0		115.0	175
Subject objectives	The aim of the course is to familiarize students with basic programming structures and techniques (data types, conditional statements, loops, functions), data structures (lists, dictionaries) and to acquire the skills to design, analyze and implement simple algorithms.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[BIOINL3_W01] Has knowledge of computer science technologies, with particular emphasis on programming		During classes, learns: basic programming structures (conditional statements, loops), basic data types (numeric, Boolean, character strings), scope of declarations and visibility of variables (local and global variables), learns the principles of building correct functions (how to determine parameters and return values), learns about data structures and operations on them (lists, dictionaries)		[SW1] oral statement/conversation/discussion [SW5] implementation of a problem task		
	[BIOINL3_U01] Graduate is able to program using modern programming tools, including tools dedicated to bioinformatics		Is able to create, run and test programs in a dedicated tool such as an integrated development environment or a specialized editor, is able to install and configure his or her work environment		[SU1] oral statement/conversation/discussion [SU5] implementation of a problem task [SU6] demonstration of practical skills		
	[BIOINL3_K01] Is aware of the limitations of his own knowledge and skills; he demonstrates a willingness to constantly improve, update his knowledge and enhance his qualifications in bioinformatics		Is ready to use technical documentation, professional literature and expert sources		[SK1] oral statement/conversation/discussion [SK2] presentation/project/paper/report		

Subject contents	• Programs in various ways of writing (verbal description, programming language instructions). Manual simulation of the algorithm. • Development environment, running and debugging programs • Variables and basic data types. Variable declaration scope and visibility, local and global variables • Basic control programming constructs: conditional statements, loops (including nested) • Functions, parameters, return value, pure functions • Basic data structures: lists, dictionaries • Error handling		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	tests	51.0%	20.0%
	tests	51.0%	60.0%
	project	51.0%	20.0%
Recommended reading	Basic literature	Python. Wprowadzenie. Wydanie V, aut. Mark Lutz, ISBN: 9788328391697	
	Supplementary literature	Python. Nowoczesne programowanie w prostych, aut. Bill Lubanovic, ISBN: 9788328368422	
	eResources addresses		
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		

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