

Subject card

Subject name and code	Programming, PG_00159333						
Field of study	Oceanography						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2027/2028		
Education level	Bachelor's studies		Subject group		Obligatory subject group in the field of study Optional subject group		
Mode of study	full-time studies		Mode of delivery		at the university		
Year of study	3		Language of instruction		Polish		
Semester of study	6		ECTS credits		2.0		
Learning profile	academic		Assessment form		credit		
Conducting unit	Laboratory of Physical Oceanography -> Department of Physical Oceanography and Climate Research -> Faculty of Oceanography and Geography -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr Marek Kowalewski				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	30.0	0.0	0.0	30
	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	30		2.0		30.0	62
Subject objectives	The course is intended to provide knowledge necessary to understand, design and write computer programs. in Python.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[OCEANL3-K01] is willing to plan and implement, individually or as a team, the subsequent stages of the entrusted task, is willing to take responsibility for the results of these works, effectively cooperates in the team and performs various roles in it		He/she is ready to be responsible for his/her own work and to conform to the rules of teamwork and responsibility for jointly performed tasks in practical exercises.		[SK5] implementation of a problem task [SK6] demonstration of practical skills		
	OCEANL3-U11		He/she will be able to work individually and cooperate in groups to perform tasks as part of a group project.		[SU5] implementation of a problem task		
	OCEANL3-U05		He/she is able to use application and specialized software, as well as design and write computer programs independently.		[SU4] test/exam - oral or written [SU5] implementation of a problem task		
	OCEANL3-W05		He/she has basic knowledge of programming techniques and advanced knowledge of computer tools used in the work of an oceanographer necessary to describe and interpret phenomena and processes in the marine environment.		[SW4] test/exam - oral or written		

Subject contents	Laboratory exercises will consist of the student's independent creation of programs that will illustrate the successively introduced constructs of the programming language. The Jupyter Notebook environment will be used to write and run the programs. The course will introduce the basic elements of programming: variables and constants, basic data types, data collections (tuples, sets, dictionaries, lists), instructions (assignments, loops, conditional and others), files and input/output operations, exception handling, defining functions and modules, structured programming and elements of object-oriented programming, basic function libraries (NumPy, Matplotlib). Translated with DeepL.com (free version)		
Prerequisites and co-requisites	Ability to work in Windows and use basic software (MSOffice)		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	final colloquium	51.0%	50.0%
	practical exercises	51.0%	50.0%
Recommended reading	Basic literature	Dr Charles R. Severance, 2023, Python for Everybody. Exploring Data in Python 3, http://do1.dr-chuck.com/pythonlearn/EN_us/pythonlearn.pdf	
	Supplementary literature	Alberto Boschetti, Luca Massaron, 2018, Python Data Science Essentials, 3rd Edition, Packt Publishing	
	eResources addresses		
Example issues/ example questions/ tasks being completed	Write a function that checks whether the natural number given in the argument is a prime number.		
Work placement	Not applicable		

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