University of Gdańsk

Subject card

Subject name and code	Programming (Laboratory), PG_00169062		
Field of study	Oceanography		
Date of commencement of studies	October 2022	Academic year of realisation of subject	2024/2025
Education level	undergraduate 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	
Conducting unit	Pracownia Oceanografii Fizycznej -> Katedra Oceanografii Fizycznej i Badań Klimatu -> Faculty of Oceanography and Geography -> Rektor		
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 designed to provide the knowledge necessary to understand, design and write computer programs in Python.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[OCEANL3-U11] can work individually and cooperate in a group performing various functions and performing various tasks	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] can apply application and specialised software, as well as mathematical and statistical methods in data analysis and presentation of results	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-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-W05] knows at an advanced level the techniques, research methods and tools (mathematical, statistical, IT) used in the work of an oceanographer to describe and interpret processes and phenomena occurring in the marine environment	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 independent creation of programs by the student, which will illustrate the successively introduced constructs of the programming language. The Jupyter Notebook environment will be used to write and run programs.The class 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).

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
Supplementary literature	Alberto Boschetti, Luca Massaron, 2018, Python Data Science Essentials, 3rd Edition, Packt Publishing
eResources addresses	Podstawowe https://py4e.pl/ - Python for Everybody Adresy na platformie eNauczanie:

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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