



Subject card

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|---|--|---|--|------------|--|---------|-----|
| Subject name and code | FUNDAMENTAL OF PROGRAMMING, PG_00063457 | | | | | | |
| Field of study | Biotechnology | | | | | | |
| Date of commencement of studies | October 2026 | Academic year of realisation of subject | | | 2026/2027 | | |
| 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 -> Faculties of Gdańsk University of Technology | | | | | | |
| Name and surname of lecturer (lecturers) | Subject supervisor | dr hab. inż. Marek Wojciechowski | | | | | |
| | Teachers | | | | | | |
| Lesson types | 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 | Course content – laboratory 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 | | | | | |

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| | Supplementary literature | Educational materials provided by the lecturer |
| | eResources addresses | Dive into python http://wikobooks.org |
| Example issues/ example questions/ tasks being completed | preparation of a python script for basic protein structure analysis based on the PDB files | |
| Practical activities within the subject | Not applicable | |

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