GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

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|---|---|---|---|
| Subject name and code | Objective programming, E:41052W0 | | |
| Field of study | Space and Satellite Technologies | | |
| Date of commencement of studies | February 2024 | Academic year of realisation of subject | 2023/2024 |
| Education level | second-cycle studies | Subject group | |
| Mode of study | Full-time studies | Mode of delivery | at the university |
| Year of study | 1 | Language of instruction | English |
| Semester of study | 1 | ECTS credits | 2.0 |
| Learning profile | | Assessment form | assessment |
| Conducting unit | Department of Geoinformatics -> Faculty of Electronics, Telecommunications and Informatics | | |
| Name and surname of lecturer (lecturers) | Subject supervisor | dr inż. Emilia Lubecka | |
| | Teachers | | |

**Lesson types and methods of instruction**

| Lesson type | Lecture | Tutorial | Laboratory | Project | Seminar | SUM |
|---|---|---|---|---|---|---|
| Number of study hours | 15.0 | 0.0 | 15.0 | 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 | 0.0 | 0.0 | 30 |

**Subject objectives**

Theory and practice on object oriented programming.

**Learning outcomes**

| Course outcome | Subject outcome | Method of verification |
|---|---|---|
| [K7_K03] Can analyse and implement assigned tasks while maintaining high technical standards. Is able to work and interact in a group, taking on different roles. Adheres to the principles of professional ethics and respects the diversity of views and cultures. | He implements the assigned tasks related to objective programming maintaining high technical standards. | [SK2] Assessment of progress of work |
| K7_U12 | Student acquires practical skills on writing object-oriented software by performing laboratory tasks in specific programming languages. | [SU1] Assessment of task fulfilment |
| K7_W12 | Student has knowledge of object-oriented programming on the example of four object-oriented programming languages: C++, Java, C#, Python. | [SW1] Assessment of factual knowledge |

**Subject contents**

1. Software programming paradigms including object oriented approach
2. Encapsulation, inheritance, abstraction and polymorphism in C++ language
3. Specific features of C++ obiect-orientation
4. Java language and its comparison to C++ language
5. C# language as successor of C++ and Java languages
6. Python as a scripting object oriented language

**Prerequisites and co-requisites**

Knowledge on non-object oriented language i.e. C language.

**Assessment methods and criteria**

| Subject passing criteria | Passing threshold | Percentage of the final grade |
|---|---|---|
| lecture | 60.0% | 50.0% |
| laboratory | 60.0% | 50.0% |

**Recommended reading**

| | |
|---|---|
| Basic literature | 1. Bjarne Strastroup: The C++ programming language<br>2. Bruce Eckel: Thinking in Java<br>3. Andy Harris: Microsoft C# for absolute beginner<br>4. Mark Lutz: Programming Python |
| Supplementary literature | None. |

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|---|---|---|
| | eResources addresses | Adresy na platformie eNauczanie: |
| Example issues/ example questions/ tasks being completed | Sample task: implementation of simple object oriented software module using object oriented paradigms in different languages<br><br>Sample question:<br><br>1. Describe object oriented paradigm.<br>2. What are the differences between C++ and java languages. | |
| Work placement | Not applicable | |