GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Object-oriented programming languages I, PG_00060217		
Field of study	Technical Physics		
Date of commencement of studies	October 2023	Academic year of realisation of subject	2024/2025
Education level	first-cycle studies	Subject group	Optional subject group 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	2	Language of instruction	Polish
Semester of study	3	ECTS credits	1.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Division of Theoretical Physics and Quantum Informaton -> Institute of Physics and Applied Computer Science -> Faculty of Applied Physics and Mathematics		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Patryk Jasik	
	Teachers		

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	15.0	0.0	0.0	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	2.0	8.0	25

Subject objectives

Presentation of the ideology of the object-oriented programming.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_K01] Understands the need to learn and improve professional and personal competencies. Can inspire and organize other people's learning process	The student uses continuously developed object-oriented programming languages to create computer software.	[SK5] Assessment of ability to solve problems that arise in practice
[K6_W05] Has knowledge of programming methodology and techniques, and the use of selected IT tools in physics and technology.	The student knows the foundations of object-oriented programming.	[SW1] Assessment of factual knowledge
[K6_U03] Knows programming languages and can use basic software packages	The student creates computer programs using object-oriented techniques.	[SU1] Assessment of task fulfilment

Subject contents

Software quality and the main goals of the object-oriented programming. Criteria of object orientation. Modularity. Approaches to reusability. Object-based decomposition. Object-oriented software construction. Abstract data types. The static structure: classes. The run-time structure: objects.

Prerequisites and co-requisites

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
A written knowledge test of the lecture	50.0%	100.0%

Recommended reading

Basic literature	B. Meyer *"Object-Oriented Software Construction"*, Prentice Hall 1997
Supplementary literature	B. D. McLaughlin, G. Pollice, D. West, "Head First Object-Oriented Analysis and Design", O'Reilly Media 2006
eResources addresses	Adresy na platformie eNauczanie:

Example issues/ example questions/ tasks being completed

1. List the main goals of object-oriented programming and briefly describe them.
2. Describe in detail the concept of genericity and provide an appropriate example.
3. Provide two definitions of object-oriented programming and explain their meaning.
4. What is an abstract data type? Describe its specification in detail.
5. Give the definition of a class and describe the features it can possess. Present a classification scheme for these features.

Work placement	Not applicable

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