



Subject card

Subject name and code	Object-oriented programming languages I, PG_00060217						
Field of study	Technical Physics						
Date of commencement of studies	October 2026	Academic year of realisation of subject				2027/2028	
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 -> Faculties of Gdańsk University of Technology						
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Patryk Jasik					
	Teachers						
Lesson types	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	Introducing students to the ideology of object-oriented programming.						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	[K6_U03] possesses programming skills in a selected language and the ability to use selected software packages.	The student is able to create computer programs using object-oriented techniques.			[SU2] Assessment of ability to analyse information		
	[K6_W05] has knowledge of programming methodologies and techniques, as well as the use of selected IT tools in physics and engineering.	The student knows how to create programs using object-oriented techniques. The student also understands how to apply this knowledge to solving basic physical problems.			[SW1] Assessment of factual knowledge		
Subject contents	Course content – lecture Software quality and the main goals of object-oriented programming. Object-oriented criteria. Modularity. Code reuse. Object-oriented decomposition. Object-oriented programming. Abstract data types. Classes - static structure. Run-time structures: objects. The client-supplier relationship. Inheritance. Generic classes.						
Prerequisites and co-requisites	Knowledge of the course Programming Languages (PG_00058047).						
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	Matt Weisfeld, "Object-Oriented Thought Process, The (Developer's Library) 5th Edition", Addison-Wesley Professional 2019					
	eResources addresses						

Example issues/ example questions/ tasks being completed	List the main goals of object-oriented programming and briefly describe them. Describe in detail the concept of generics and present an appropriate example. Provide two definitions of object-oriented programming and explain their meaning. What is an abstract data type? Describe its specification in detail. Give the definition of a class and describe the characteristics it may possess. Present a scheme for their classification.
Practical activities within the subject	Not applicable

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