



## Subject card

Subject name and code	Objective programming, E:41052W0						
Field of study	Space and Satellite Technologies						
Date of commencement of studies	February 2025		Academic year of realisation of subject		2024/2025		
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 -> Wydział Politechniki Gdańskiej						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. 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_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		
	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_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		
Subject contents	1. Software programming paradigms including object oriented approach 2. Encapsulation, inheritance, abstraction and polymorphism in C++ language 3. Specific features of C++ object-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		
	laboratory		60.0%		50.0%		
	lecture		60.0%		50.0%		
Recommended reading	Basic literature		1. Bjarne Stroustrup: The C++ programming language 2. Bruce Eckel: Thinking in Java 3. Andy Harris: Microsoft C# for absolute beginner 4. Mark Lutz: Programming Python				
	Supplementary literature		None.				

	eResources addresses	Adresy na platformie eNauczenie:
Example issues/ example questions/ tasks being completed	<p>Sample task: implementation of simple object oriented software module using object oriented paradigms in different languages</p> <p>Sample question:</p> <ol style="list-style-type: none"> <li>1. Describe object oriented paradigm.</li> <li>2. What are the differences between C++ and java languages.</li> </ol>	
Work placement	Not applicable	

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