GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Object programming, PG_00045295		
Field of study	Data Engineering		
Date of commencement of studies	October 2025	Academic year of realisation of subject	2025/2026
Education level	first-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	3.0
Learning profile	general academic profile	Assessment form	exam
Conducting unit	Department Of Geoinformatics -> Faculty Of Electronics Telecommunications And Informatics -> Wydziały Politechniki Gdańskiej		
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. inż. Marek Moszyński	
	Teachers	dr hab. inż. Marek Moszyński	

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	15.0	0.0	11.0	30.0	0.0	56

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	56	6.0	13.0	75

Subject objectives

Theory and practice on object oriented programming

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_U06] acquires new knowledge, planning its own development in aiming at achieving defined goals	The student acquires skills in the field of the basics of object-oriented programming using the following programming languages: C++, Java, C#, Python and Javascript.	[SU1] Assessment of task fulfilment [SU2] Assessment of ability to analyse information
[K6_U02] prepares and presents convincingly professional presentations of the results of undertaken activities, with their advanced interpretation	The student is able to present solutions used in the completed tasks	[SU4] Assessment of ability to use methods and tools [SU5] Assessment of ability to present the results of task
[K6_W06] classifies the acquired information, assessing its usefulness in solving the formulated problems	The student acquires practical skills by performing sample tasks in several object-oriented programming languages.	[SW3] Assessment of knowledge contained in written work and projects

<table>
<tr><td>Subject contents</td><td>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 succesor of C++ and Java languages

6. Python as a scripting object oriented languge</td></tr>
<tr><td>Prerequisites and co-requisites</td><td>Knowledge on non-object oriented language i.e. C language.</td></tr>
<tr><td>Assessment methods and criteria</td><td>
<table>
<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td>lecture</td><td>60.0%</td><td>34.0%</td></tr>
<tr><td>project</td><td>60.0%</td><td>33.0%</td></tr>
<tr><td>laboratory</td><td>60.0%</td><td>33.0%</td></tr>
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<tr><td>Recommended reading</td><td>
<table>
<tr><td>Basic literature</td><td>Bjarne Strastroup - The C++ programming language

Bruce Eckel - Thinking in Java

Andy Harris - Macrosoft C# for absolute beginner

Mark Lutz - Programming Python</td></tr>
<tr><td>Supplementary literature</td><td>John Hunt - Smalltalk and Object Orientation</td></tr>
<tr><td>eResources addresses</td><td>Adresy na platformie eNauczanie:</td></tr>
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<tr><td>Example issues/ example questions/ tasks being completed</td><td>Sample question: What are the trends of C++ evolution?

Sample task: implementation of simple object oriented software module using object oriented paradigms in different languages</td></tr>
<tr><td>Work placement</td><td>Not applicable</td></tr>
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