GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Object-oriented Programming Languages, PG_00047824		
Field of study	Informatics		
Date of commencement of studies	October 2021	Academic year of realisation of subject	2022/2023
Education level	first-cycle studies	Subject group	Optional subject group
Mode of study	Part-time studies	Mode of delivery	at the university
Year of study	2	Language of instruction	Polish
Semester of study	3	ECTS credits	6.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Department of Geoinformatics -> Faculty of Electronics, Telecommunications and Informatics		
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. inż. Marek Moszyński	
	Teachers	dr hab. inż. Marek Moszyński dr inż. Andrzej Chybicki	

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	30.0	0.0	0.0	15.0	0.0	45

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	45	15.0	90.0	150

Subject objectives: Theory and practice on object oriented programming

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_U41] can produce, test or evaluate software using modern programming platforms, tools, languages and paradigms of different levels, as well as use software packages supporting scientific and research processes as well as business decision-making processes and teamwork	The student acquires practical skills by performing sample tasks in several object-oriented programming languages	[SU1] Assessment of task fulfilment [SU4] Assessment of ability to use methods and tools
[K6_U04] can apply knowledge of programming methods and techniques as well as select and apply appropriate programming methods and tools in computer software development or programming devices or controllers using microprocessors or programmable elements or systems specific to the field of study	The student acquires practical skills by performing laboratory tasks in specific object-oriented programming languages	[SU1] Assessment of task fulfilment
[K6_W04] Knows and understands, to an advanced extent, the principles, methods and techniques of programming and the principles of computer software development or programming devices or controllers using microprocessors or programmable elements or systems specific to the field of study, and organisation of systems using computers or such devices	The student gets acquainted with the basics of object oriented programming on the example of four object oriented programming languages	[SW1] Assessment of factual knowledge

<table>
<tr><td>Subject contents</td><td>1. Programming paradigms with particular emphasis on the object-oriented paradigm
2. Implementation of encapsulation, inheritance, abstraction and polymorphism in C++
3. Specificity of object-oriented implementation in C++
4. Java language and its comparison with the C++ language
5. The C# language and as the successor to the C language and comparison with the Java language
6. Python as a representative of script-oriented object-oriented programming languages</td></tr>
<tr><td>Prerequisites and co-requisites</td><td>No requirements</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>Midterm colloquium</td><td>55.0%</td><td>40.0%</td></tr>
<tr><td>Project</td><td>55.0%</td><td>60.0%</td></tr>
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<tr><td>Recommended reading</td><td>
<table>
<tr><td>Basic literature</td><td>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</td></tr>
<tr><td>Supplementary literature</td><td>1. John Hunt, Smalltalk and Object Orientation 2. Bruce Eckel, Thinking in C++</td></tr>
<tr><td>eResources addresses</td><td>Adresy na platformie eNauczanie:
Języki programowania obiektowego 2022 - Moodle ID: 22538
https://enauczanie.pg.edu.pl/moodle/course/view.php?id=22538</td></tr>
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<tr><td>Example issues/ example questions/ tasks being completed</td><td>Sample question: In what direction is C++ developing?
Sample task: Implementation of a simple object-oriented program using object-oriented programming paradigms in various programming languages.</td></tr>
<tr><td>Work placement</td><td>Not applicable</td></tr>
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