GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Language C/C++, PG_00053211		
Field of study	Chemistry		
Date of commencement of studies	October 2023	Academic year of realisation of subject	2023/2024
Education level	first-cycle studies	Subject group	Optional subject group
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	assessment
Conducting unit	Department of Electrochemistry, Corrosion and Materials Engineering -> Faculty of Chemistry		
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. inż. Artur Zieliński	
	Teachers	dr hab. inż. Artur Zieliński dr inż. Łukasz Gaweł	

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	5.0	40.0	75

Subject objectives

Getting acquainted with several modern programming languages.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_K01] understands the need for lifelong learning, can inspire and organize the process of teaching other people	The student is able to translate the knowledge of the implementation of computer algorithms into the way of carrying out a task in a professional career.	[SK3] Assessment of ability to organize work
[K6_W05] knows and understands the chemical processes and algorithms of mathematical models which are necessary for the design of technological processes, knows chemical structure of contemporary materials and its relation to their properties, enabling the selection of the materials for sustainable development technology and material-efficient and energy-efficient methods	The student is able to make an algorithmization of the technological process.	[SW1] Assessment of factual knowledge
[K6_U08] is capable to design and carry out the experiment which is necessary to confirm a given hypothesis and sees wider context, often beyond-technical, of the analysed phenomena	The student is able to use the programming language to implement the algorithm necessary to perform a specific task.	[SU5] Assessment of ability to present the results of task [SU4] Assessment of ability to use methods and tools

Subject contents

1. Introduction, history of language.2. Functions and operators.3. Controlling the execution of the program.4. Pointers and arrays.5. Multidimensional arrays.6. Structures and unions.7. Programming of microcontrollers.

<table>
<tr><td>Prerequisites and co-requisites</td><td colspan="3">General knowledge of computer science.</td></tr>
<tr><td>Assessment methods and criteria</td><td colspan="3"><table>
<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td>Laboratory</td><td>50.0%</td><td>50.0%</td></tr>
<tr><td>Lecture</td><td>50.0%</td><td>50.0%</td></tr>
</table></td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td colspan="2">B. W. Kernighan, D. M. Ritchie, Język C, programowanie, Helion, Gliwice, 2010.</td></tr>
<tr><td>Supplementary literature</td><td colspan="2">The Internet</td></tr>
<tr><td>eResources addresses</td><td colspan="2">Adresy na platformie eNauczanie:
ELEKTROCHEMICZNE ŹRÓDŁA ENERGII [2023/24] - Moodle ID: 36094
https://enauczanie.pg.edu.pl/moodle/course/view.php?id=36094</td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="3">What are the disadvantages of compiled languages versus interpreted languages?How can I draw 16 real numbers with a C program?How can you implement a vector in C language?Describe the role and meaning of the main () function in a C program.</td></tr>
<tr><td>Work placement</td><td colspan="3">Not applicable</td></tr>
</table>