GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Informatics I, PG_00038090		
Field of study	Automation, Robotics and Control Systems		
Date of commencement of studies	October 2023	Academic year of realisation of subject	2023/2024
Education level	first-cycle studies	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	4.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Faculty of Electrical and Control Engineering		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Robert Smyk	
	Teachers	dr inż. Daniel Wachowiak dr inż. Robert Smyk dr inż. Paweł Kowalski	

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	30.0	0.0	15.0	0.0	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	10.0	45.0	100

Subject objectives

Getting to know the components and working of computers, including binary arithmetics ad different representations of numbers. Gaining entry-level experience in programming using the C language.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_W06] knows the structure of computers and microprocessors and the tasks of operating systems, has basic knowledge of the basics of computer software, drivers, microprocessor technology, design of simple algorithms and the operation of information networks	Can program the selected sorting or search algorithm.	[SW1] Assessment of factual knowledge
[K6_U04] has the ability to self-educate, among other things, in order to improve professional qualifications	Is able to solve programming tasks using loops and conditions.	[SU4] Assessment of ability to use methods and tools

Subject contents

Internals and working of CPU, basics of C programming: basic program components, variables and constants, relational
and boolean expressions, branch instrucion, loops, functions, passing parameters by value, return values, algorithm
block diagrams, sorting algorithms, algorithm complexity assessmentaaa

Prerequisites and co-requisites

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Assessments - theory	60.0%	37.5%
Homeworks	60.0%	12.5%
Assessment - practical	60.0%	37.5%
Preparation checks	60.0%	12.5%

Recommended reading	Basic literature	1. B. Kernighan, D. Ritchie, Język C, WNT 1988. 2. Niklaus Wirth, Algorytmy + struktury danych = programy, WNT 1989. 3. William Stallings, Computer Organization And Architecture. Designing for performance. 8th-edition.
	Supplementary literature	none
	eResources addresses	Adresy na platformie eNauczanie: INFORMATYKA I [2023/24] - Moodle ID: 36039 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=36039
Example issues/ example questions/ tasks being completed	Change the representation of numbers using the decimal, binary, hexadecimal and octal systems Enumerate the tasks of the operating system Explain the difference between recursive and iterative way of programming Describe the rules of algorithm complexity analysis Present the working of selected sorting algorithms Present the approaches to programming-in-the-large and the differences between these approaches Creating programs in C language, to perform give tasks and employ known programming techniques: - numerical programs - simple computer game - string processing	
Work placement	Not applicable	