

Subject card

Subject name and code	Introduction to computer programming, PG_00143541						
Field of study	Informatics						
Date of commencement of studies	October 2024	Academic year of realisation of subject			2024/2025		
Education level	undergraduate studies	Subject group		Obligatory subject group 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 polish		
Semester of study	1	ECTS credits		6.0			
Learning profile	academic	Assessment form					
Conducting unit							
Name and surname of lecturer (lecturers)	Subject supervisor		dr Janusz Dybizbański				
	Teachers		dr inż. Kamila Mazur-Oleszczuk dr Janusz Dybizbański dr Mikołaj Czechlewski				
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	45.0	0.0	0.0	75
	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	75		0.0		75.0	150
Subject objectives	The aim of the course is to learn basic programming techniques and acquire the skills to design, analyze and implement basic algorithms.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[[INFL3_U06] is able to design, create, run and test programs using dedicated tools and adequate templates		can find and correct errors in existing computer programs can design simple algorithms, including those using DP and divide-and-conquer techniques		[SU4] test/exam - oral or written [SU8] observation of student's independent or team work		
	[[INFL3_W05] has general knowledge of various programming paradigms and programming languages; has detailed knowledge of object-oriented design and programming methods and patterns		can create computer programs and knows basic algorithm design techniques knows the recursion mechanism, basic algorithms, and data structures		[SW4] test/exam - oral or written [SW1] oral statement/conversation/discussion [SW2] presentation/project/paper/report		
	[[INFL3_U02] can precisely formulate questions to deepen one's understanding of a given topic or find missing elements of reasoning		can find and correct errors in existing computer programs can assess and justify the optimality of solutions to simple problems		[SU1] oral statement/conversation/discussion [SU8] observation of student's independent or team work		

Subject contents	<ul style="list-style-type: none"> • Algorithm and program. Simple programs in various ways of writing (verbal description, block diagram, programming language instructions). Manual simulation of the algorithm. • Scheme of program processing in a high-level language - stages of compilation, consolidation and execution. • Variable declarations. Simple data types and structural types: array, record. Scope of declaration and visibility of variables, global variables. • Control instructions. The concept of partial and total program correctness. • Nested loops. • Procedures and functions. Ways to pass parameters to functions. • Recursion mechanism and its use. Expressing a loop with recursion and an example of expressing recursion with a loop. Proving the correctness of recursive functions using mathematical induction. • Representation of integers and floating-point numbers in the computer and the errors caused by them (over-range and rounding errors). • The use of pointers and memory management on the example of simple data structures. • Information about theoretical computational limits. 																				
Prerequisites and co-requisites	no requirements																				
Assessment methods and criteria	<table border="1"> <thead> <tr> <th data-bbox="456 584 794 618">Subject passing criteria</th> <th data-bbox="799 584 1137 618">Passing threshold</th> <th data-bbox="1142 584 1481 618">Percentage of the final grade</th> </tr> </thead> <tbody> <tr> <td data-bbox="456 624 794 658">test</td> <td data-bbox="799 624 1137 658">50.0%</td> <td data-bbox="1142 624 1481 658">20.0%</td> </tr> <tr> <td data-bbox="456 665 794 698">project</td> <td data-bbox="799 665 1137 698">50.0%</td> <td data-bbox="1142 665 1481 698">10.0%</td> </tr> <tr> <td data-bbox="456 705 794 739">activity in classes</td> <td data-bbox="799 705 1137 739">0.0%</td> <td data-bbox="1142 705 1481 739">5.0%</td> </tr> <tr> <td data-bbox="456 745 794 779">projects in class</td> <td data-bbox="799 745 1137 779">0.0%</td> <td data-bbox="1142 745 1481 779">15.0%</td> </tr> <tr> <td data-bbox="456 786 794 819">exam</td> <td data-bbox="799 786 1137 819">50.0%</td> <td data-bbox="1142 786 1481 819">50.0%</td> </tr> </tbody> </table>			Subject passing criteria	Passing threshold	Percentage of the final grade	test	50.0%	20.0%	project	50.0%	10.0%	activity in classes	0.0%	5.0%	projects in class	0.0%	15.0%	exam	50.0%	50.0%
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Recommended reading	Basic literature	<p>[1] Griffiths David, Griffiths Dawn. <i>C. Rysz głową!</i> Wydawnictwo Helion.</p> <p>[2] Szepietowski A. <i>Podstawy informatyki</i>. Wydawnictwo Uniwersytetu Gdańskiego, Gdańsk 2000.</p> <p>[3] Kernighan B.W., Ritchie D.M. <i>Język ANSI C</i>. Wydawnictwa Naukowo-Techniczne, Warszawa 2003.</p>																			
	Supplementary literature	no applicable																			
	eResources addresses	Adresy na platformie eNauczanie:																			
Example issues/ example questions/ tasks being completed	no applicable																				
Work placement	Not applicable																				

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