

Subject card

Subject name and code	Programming Languages, PG_00189373						
Field of study	Mathematical Modeling and Data Analysis						
Date of commencement of studies	October 2026		Academic year of realisation of subject		2026/2027		
Education level	Bachelor's 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		
Semester of study	2		ECTS credits		2.0		
Learning profile	academic		Assessment form		credit		
Conducting unit							
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Piotr Szuca				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	30.0	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		0.0		20.0	50
Subject objectives	To familiarize students with the various mechanisms offered by modern programming languages.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[MMiADL3_U08] is able to create and analyze an algorithm consistent with the specification and write it in a selected programming language, as well as compile, run and test a computer program written by himself/herself		315 / 5 000 can use the mechanisms of modern programming languages to create correct and effective solutions, construct algorithms consistent with the task's assumptions and write them using various programming paradigms, run and verify the operation of their own programs through appropriate tests.		[SU2] presentation/project/paper/report [SU4] test/exam - oral or written		
	[MMiADL3_U07] is able to recognize problems, including practical issues, that can be solved algorithmically; is able to make specification for such a problem		is able to analyze tasks and practical situations in terms of their solvability using the mechanisms of modern programming languages and formulate their precise requirements and description of operation leading to the development of an algorithmic solution.		[SU2] presentation/project/paper/report [SU4] test/exam - oral or written		
Subject contents	The course covers selected programming paradigms. Structured programming, object-oriented programming, functional and declarative programming, and elements of concurrent programming will be discussed.						
Prerequisites and co-requisites	Knowledge of basic structured programming principles: Understand basic programming constructs such as conditionals, loops, functions, and recursion.						
Assessment methods and criteria	Subject passing criteria		Passing threshold		Percentage of the final grade		
	test		51.0%		50.0%		
	homework		51.0%		50.0%		

Recommended reading	Basic literature	1. B. Kernighan, D. Ritchie "Język ANSI C" 2. K. Barteczko "JAVA. Uniwersalne techniki programowania" 3. B. Eckel "Thinking in Java"
	Supplementary literature	I. Bratko "Prolog programming for artificial intelligence" D. Wampler "Programming Scala"
	eResources addresses	
Example issues/ example questions/ tasks being completed	none	
Work placement	Not applicable	

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