

Subject card

Subject name and code	Discrete Mathematics, PG_00197983						
Field of study	Informatics						
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	1	ECTS credits			7.0		
Learning profile	academic	Assessment form			exam		
Conducting unit							
Name and surname of lecturer (lecturers)	Subject supervisor		prof. dr hab. Andrzej Szepietowski				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	45.0	60.0	0.0	0.0	0.0	105
	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	105		0.0		70.0	175
Subject objectives	Familiarization with the basics of discrete mathematics in accordance with the needs of computer science.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[INFOL3_U02] is able to use his/her knowledge of higher mathematics to model and solve complex problems						
[INFOL3_W02] knows and understands advanced concepts of discrete mathematics, probabilistic methods and statistics		the student has basic knowledge of discrete mathematics (computer arithmetic, combinatorics and Boolean functions), the student has basic knowledge of probability theory		[SW4] test/exam - oral or written			
Subject contents	Set theory: operations on sets, relations and functions, equivalence relations and classes of abstraction. Arithmetic: counting systems, representation of numbers in computers, Combinatorics: sequences, functions, permutations, Newton's symbol, Dirichlet's drawer rule. Probability: independence of events, Bernoulli scheme, random variables, expected values, averages, variances, Markov and Chebyshev inequalities. Boolean functions: Boolean algebra, Boolean expressions and functions, Boolean networks.						
Prerequisites and co-requisites							
Assessment methods and criteria	Subject passing criteria		Passing threshold		Percentage of the final grade		
	exam		51.0%		90.0%		
	tests		51.0%		10.0%		
Recommended reading	Basic literature		Andrzej Szepietowski, <i>Matematyka dyskretna</i> , Wyd. Uniwersytetu Gdańskiego 2004.				
	Supplementary literature		not applicable				
	eResources addresses						

Example issues/ example questions/ tasks being completed	not applicable
Work placement	Not applicable

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