

Subject card

Subject name and code	Numerical algorithms, PG_00168340						
Field of study	Informatics						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2026/2027		
Education level	Bachelor's studies		Subject group		Obligatory subject group in the field of study Optional subject group		
Mode of study	full-time studies		Mode of delivery		at the university		
Year of study	2		Language of instruction		Polish		
Semester of study	4		ECTS credits		5.0		
Learning profile	practical		Assessment form		exam		
Conducting unit							
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Łukasz Kuszner				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	30.0	0.0	0.0	60
	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	60		0.0		0.0	60
Subject objectives	The aim of the course is to familiarize students with numerical methods, their applications and problems arising during such calculations.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[INFL3_W01] has knowledge in mathematics covering the basics of algebra, discrete mathematics (elements of logic and set theory, combinatorics and graph theory), probabilistic methods		the student knows the iterative method and examples of its application the student knows methods of solving linear equations the student knows the issues of interpolation and approximation the student knows the error types numerical data processing		[SW4] test/exam - oral or written [SW2] presentation/project/paper/report		
Subject contents	1. Numerical errors 2. Systems of linear equations 3. Nonlinear equations 4. Interpolation 5. Approximation 6. Numerical integration						
Prerequisites and co-requisites	- Object-oriented programming - Linear algebra - Algorithms and data structures						
Assessment methods and criteria	Subject passing criteria		Passing threshold		Percentage of the final grade		
	project exercises		51.0%		50.0%		
	exam		51.0%		50.0%		

Recommended reading	Basic literature	T. Ratajczak, Metody numeryczne. Przykłady i zadania, Wydawnictwo Politechniki Gdańskiej, Gdańsk 2007. Z. Fortuna, B. Macukow, J. Wąsowski, Metody numeryczne, WNT, Warszawa 2006. David Monniaux, The pitfalls of verifying floating-point computations. ACM Transactions on Programming Languages and Systems (TOPLAS), ACM, 2008, 30 (3).
	Supplementary literature	Wojciech Kordecki, Karol Selwat, Metody numeryczne dla informatyków, Helion, Gliwice, 2020
	eResources addresses	
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	

Document generated electronically. Does not require a seal or signature.