



Subject card

Subject name and code	Numerical methods in the LabVIEW environment , PG_00057513						
Field of study	Nanotechnology						
Date of commencement of studies	February 2025		Academic year of realisation of subject		2024/2025		
Education level	second-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	1		ECTS credits		4.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Institute of Nanotechnology and Materials Engineering -> Faculty of Applied Physics and Mathematics						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Marek Chmielewski				
	Teachers		dr inż. Marek Chmielewski				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	30.0	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		2.0		3.0	50
Subject objectives	The aim of the course is to prepare students to effectively use LabVIEW environment used as a tool for advanced digital signal processing						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
Subject contents	The course contents include a comprehensive use of the LabVIEW package in the field of wide-area digital signal analysis. Methods of digital signal filtering, techniques of effective interpolation and extrapolation will be presented and tested. Activities in the field of mathematical processing of digital signals including integration and differentiation procedures, filtering using the Fourier transform and wavelet analysis, also in the time domain. Techniques for parameterization of noise signals will be presented.						
Prerequisites and co-requisites	Basic knowledge of LabVIEW programming environment						
Assessment methods and criteria	Subject passing criteria		Passing threshold		Percentage of the final grade		
	Projets in LV		100.0%		100.0%		
Recommended reading	Basic literature		Website www.NI.com				
			"Introduction to digital signal processing" Author: Lyons Richard G.				
	Supplementary literature		non				
	eResources addresses		Adresy na platformie eNauczanie:				
Example issues/ example questions/ tasks being completed	FFT, SFFT, RMS, DC analysis						
Work placement	Not applicable						

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