GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Measurement and control software, PG_00052091		
Field of study	Nanotechnology		
Date of commencement of studies	October 2020	Academic year of realisation of subject	2022/2023
Education level	first-cycle studies	Subject group	Optional subject group Subject group related to scientific research in the field of study
Mode of study	Full-time studies	Mode of delivery	at the university
Year of study	3	Language of instruction	Polish
Semester of study	6	ECTS credits	4.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Department of Solid State Physics -> 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	6.0	49.0	100

Subject objectives	Acquire knowledge for the programming skills in the LabView graphical programming language in level allowing for the accession to the CLAD certification exam

Learning outcomes

Course outcome	Subject outcome	Method of verification
K6_W04	The student is able to use the programming environment to present the result of the software work, he is able to conduct the process of communication and data exchange in formats that enable communication between programming platforms and systems presenting results in various forms, including graphic format.	[SW1] Assessment of factual knowledge
K6_U05	The student will know the capabilities of different measurement techniques, discovers and suggests the possibility of their effective use in areas other than those performed during the lab. Learns software capabilities for advanced digital signal processing	[SU1] Assessment of task fulfilment [SU4] Assessment of ability to use methods and tools
K6_K04	Work in the laboratory in group consist with three students, currently in single groups person. Cooperation in order to achieve the intended results. Planning and allocation of functions and roles in the process of handling the measuring equipment and data acquisition.	[SK1] Assessment of group work skills
K6_W10	The student performs and controls the measurement experiments to assess the quality of the tested materials and defines and identifies the defects existing in the material.	[SW1] Assessment of factual knowledge
K6_U04	In carrying out tasks related to the topics of laboratory student will know the correct methods of carrying out the experiment, will be able to realize and understand the need for multi-track analysis of the results. Properly provide calibration procedures, and effectively uses these results to determine the unknown parameters of the measured elements	[SU1] Assessment of task fulfilment [SU3] Assessment of ability to use knowledge gained from the subject

Subject contents

The content of the course is to understand and practical use of the LabView programming environment. Lecture and lab will be held under the patronage and the strict supervision of the National Instrument. In a series of lectures and labs, students will learn about the basic techniques of programming in LabView environment. Will explore the issues of control systems, measurement and control using LabView. On the lecture and laboratory will be presented the capacity of the LabView environment and its versatility in contemporary science and industry.

Prerequisites and co-requisites

Basic programming skills in scripting programming languages (C, Fortran, etc.).

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Test funkcjonalności i estetyka	60.0%	100.0%

Recommended reading

Basic literature	National Instrument - Internet sources
Supplementary literature	not required
eResources addresses	Adresy na platformie eNauczanie: Oprogramowanie pomiarowe i sterujące - Moodle ID: 30217 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=30217

Example issues/ example questions/ tasks being completed

Consistent with the themes available on the website of National Instruments in the subject of the CLAD exam

Work placement

Not applicable