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 2024	Academic year of realisation of subject	2026/2027
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	Institute of Nanotechnology and Materials Engineering -> Faculty of Applied Physics and Mathematics -> Wydziały Politechniki Gdańskiej		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Marek Chmielewski	
	Teachers		

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

Acquiring basic programming skills in the LabView graphical programming language, enabling, among other things, to take the CLAD certification exam.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_U05] can design and build a simple measuring device or instrument.	While performing tasks related to laboratory topics, he learns the correct method of conducting experiments. He performs and understands the need for multi-faceted analysis of the obtained results. He is able to design a dedicated measurement system and is capable of, at least, building its functional modules. Student is able to effective use of construction tools.	[SU2] Assessment of ability to analyse information [SU1] Assessment of task fulfilment
[K6_W04] Has knowledge of IT tools (word processors, spreadsheets, etc.), preparing multimedia presentations, programming and computer graphics	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_K04] can cooperate and work in a team, adopting different roles.	The student is able to work in a group of up to three people. They understand the importance of proper task distribution in the implementation of any project. They are able to critically assess their own skills. They are able to consistently carry out their tasks in a group and manage a team.	[SK3] Assessment of ability to organize work [SK1] Assessment of group work skills

<table>
<tr><td>Subject contents</td><td>The subject focuses on learning about and practical use of the LabView programming environment. Lectures and laboratory classes will be held under the patronage and close supervision of National Instrument. During the series of lectures and laboratories, students will learn the basic programming techniques in the LabView environment. They will learn about the operation of control and measurement systems using LabView. The capabilities of the environment and its versatile application in modern technology, science and industry will be presented.

During the laboratory, students will create simple programmes that are applied to the basic tools of the LabVIEW environment.</td></tr>
<tr><td>Prerequisites and co-requisites</td><td>Not required</td></tr>
<tr><td>Assessment methods and criteria</td><td><table><tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr><tr><td>Project evaluation</td><td>80.0%</td><td>100.0%</td></tr></table></td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td>National Instrument - online sources</td></tr>
<tr><td>Supplementary literature</td><td>none</td></tr>
<tr><td>eResources addresses</td><td></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td>Classic elements of programming languages applied in the LabVIEW environment

Controls, indicators, local variables. Front panel and block diagram</td></tr>
<tr><td>Work placement</td><td>Not applicable</td></tr>
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