GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Informatics I, PG_00039783		
Field of study	Materials Engineering, Materials Engineering, Materials Engineering		
Date of commencement of studies	October 2021	Academic year of realisation of subject	2021/2022
Education level	first-cycle 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	2	ECTS credits	4.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Department of Corrosion and Electrochemistry -> Faculty of Chemistry		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Łukasz Gaweł	
	Teachers	dr inż. Łukasz Gaweł	

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

Adresy na platformie eNauczanie:

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	12.0	43.0	100

Subject objectives

Mastering the advanced level in Excel spreadsheet, by learning processing, statistical analysis and creating basic programs to process of experimental data. In addition, the student will acquire knowledge of the basic programming language Python, to provide visualization of the experimental data with the use of libraries Matplotlib

Learning outcomes

Course outcome	Subject outcome	Method of verification
K6_W01	The student has knowledge of statistical analysis, regression equations, and how to use them correctly for experimental data.	[SW1] Assessment of factual knowledge
K6_U04	The student is able to use various software to analyze and process experimental data.	[SU4] Assessment of ability to use methods and tools
K6_W05	The student has knowledge of computer use, extension files for various purposes, and how to process them.	[SW1] Assessment of factual knowledge
K6_K01	The student is able to use libraries and scientific aids to improve their competence in the field of data analysis programs	[SK5] Assessment of ability to solve problems that arise in practice

Subject contents

Lectures:
1-8 Using spreadsheets in practice, discussing the MS Office suite and related programs
9-15 Using the Python language in processing experimental data
package

<table>
<tr><td>Prerequisites and co-requisites</td><td colspan="3">Basic knowledge of mathematics, course of functions and statistics
Basic knowledge of computer and peripheral devices
Knowledge of how to use the Windows environment</td></tr>
<tr><td>Assessment methods and criteria</td><td colspan="3"><table><tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr><tr><td>Lecture</td><td>60.0%</td><td>40.0%</td></tr><tr><td>Laboratory</td><td>60.0%</td><td>60.0%</td></tr></table></td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td colspan="2">Microsoft Excel 2013. Krok po kroku- C.D. Frye

Excel 2016 PL. Programowanie w VBA- A. Michael, R. Kuslejka

Matplotlib for Python Developers- A. Yim, C. Chung, A. Yu</td></tr>
<tr><td>Supplementary literature</td><td colspan="2">Online documentation, step-by-step courses and videos available on popular websites.</td></tr>
<tr><td>eResources addresses</td><td colspan="2"></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="3">Description of experimental data using the regression function.
Use of the "if" function
Statistical analysis of experimental data using the student's t test.</td></tr>
<tr><td>Work placement</td><td colspan="3">Not applicable</td></tr>
</table>

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