GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Computer science, PG_00057668		
Field of study	Green Technologies		
Date of commencement of studies	October 2024	Academic year of realisation of subject	2024/2025
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	1	ECTS credits	3.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Department of Analytical Chemistry -> Faculty of Chemistry		
Name and surname of lecturer (lecturers)	Subject supervisor	prof. dr hab. inż. Bożena Zabiegała	
	Teachers	prof. dr hab. inż. Bożena Zabiegała	

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	5.0	25.0	75

Subject objectives

The aim of the course is to prepare the student for an active life and functioning in modern society. Developing the ability to consciously and efficiently use a computer. Familiarizing the student with modern methods and tools of computer science. Developing the ability to select appropriate IT tools to carry out one's own tasks, m.in statistical analysis of the set of results of a chemical experiment. Explanation of the principles of operation of computer equipment and its usefulness in chemistry, the use of advanced software to create a document of a scientific nature.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_K06] has awareness of the importance of non-technical aspects and effects of engineering activities, including its impact on the environment and the associated responsibility for decisions.	Is aware of the availability / ease of finding information used to solve current problems, to acquire knowledge	[SK5] Assessment of ability to solve problems that arise in practice
[K6_U03] is able to use information and communication technologies relevant to the common tasks of engineering, is able to use known methods and mathematical-physical models to describe and explain phenomena and chemical processes	The student is able to use computer programs dedicated to simple engineering design and can use computational programs	[SU4] Assessment of ability to use methods and tools

Subject contents

data analysis, computer networks, mathematical basis of computer operation (numerical systems, binary coding), ways of measuring computer performance, computer hardware, smart phones, tablets, notebooks, netbooks, desktop computers (brief overview of purpose, principles of operation and current models), operating systems: DOS, Windows, Unix, MacOs, Android, Internet and range of Internet services; Cloud Computing, application software with particular emphasis on programs for chemists, databases, multimedia techniques, software and Internet tools: web development, text, graphics, animation, applications of computer science in chemistry; use of computers for modeling, free software as an alternative to commercial, expensive packages, computer viruses and other threats,

Excel: Familiarize yourself with the Excel spreadsheet, learn the basic issues related to data entry, data editing, cell formatting. Collecting data and developing measurement results, creating graphs, calculating, solving equations, using advanced Excel features - AutoCad: learning a computer-aided design program. Learning to design in the basic scope - creating two-dimensional drawings

<table>
<tr><td>Prerequisites and co-requisites</td><td colspan="3"></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>laboratorium</td><td>60.0%</td><td>30.0%</td></tr>
<tr><td>lecture</td><td>60.0%</td><td>70.0%</td></tr>
</table></td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td colspan="2">Literatura podstawowa

prepared by Dr. B. Kudłak for the field of Green Technologies updated annually</td></tr>
<tr><td>Supplementary literature</td><td colspan="2">AutoCad Complete Tutorial for Beginners

https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKeMDYc&usg=AOvVaw3_H-g4lPMRcIMuOzD_b5B-</td></tr>
<tr><td>eResources addresses</td><td colspan="2">Adresy na platformie eNauczanie:</td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="3">Preparation of a spreadsheet to calculate the uncertainty of the measurement result Preparation of graphs describing the relationships between various variables Making a presentation on the topic proposed by the lecturer, using information obtained from the resources of the PG Main Library Independent execution of a drawing of laboratory glass in AutoCad</td></tr>
<tr><td>Work placement</td><td colspan="3">Not applicable</td></tr>
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