University of Gdańsk

Subject card

Subject name and code	Information Technology in Chemistry, PG_00168481		
Field of study	Nuclear safety and radiological protection		
Date of commencement of studies	October 2026	Academic year of realisation of subject	2026/2027
Education level	Bachelor's studies	Subject group	Obligatory subject group in the field of study
Mode of study	full-time studies	Mode of delivery	blended-learning
Year of study	1	Language of instruction	Polish
Semester of study	1	ECTS credits	2.0
Learning profile	academic	Assessment form	credit
Conducting unit	Laboratory of Carbohydrate Chemistry -> Department of Organic Chemistry -> Faculty of Chemistry -> Rector		
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. Rafał Ślusarz	
	Teachers		

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	0.0	0.0	30.0	0.0	0.0	30

E-learning hours included: 15.0

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	30	0.0	20.0	50

Subject objectives

- Introducing students to UNIX environments.
- To familiarize students with basic tools for: file operations, text editing, communication with remote system, changing attributes of graphic and text objects, free search of information in World Wide Internet resources and e-mail handling.
- Presentation of selected programs to visualize chemical structures and to draw chemical compounds.
- Familiarization of students with the UG Educational Portal and e-learning learning techniques.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[BJORL3_U06] Is able to use basic application software packages for presentation of results and data analysis.	performs graphs of mathematical functions, multimedia presentations and edits raster images	[SU2] presentation/project/paper/ report
[BJORL3_U04] Can use mathematical and computer apparatus to analyze and solve problems in radiological protection and nuclear safety.	constructs correct, three-dimensional representations of chemical structures	[SU2] presentation/project/paper/ report
[BJORL3_U02] Has the ability to perform measurements of basic quantities used in physics and chemistry; can develop, describe and present the results of simple experiments and computer simulations; can perform quantitative analyses and formulate qualitative conclusions on this basis; can estimate measurement uncertainties.	creates files and directories; uses web browsers to find desired information and to communicate; proposes the best methods for visualizing structures and data sets	[SU2] presentation/project/paper/ report [SU3] text preparation/written work
[BJORL3_W03] Knows how to plan and perform a simple physical or chemical experiment and analyze the results obtained; knows the elements of the theory of measurement uncertainty as applied to experiments; knows the basic units of the SI system and its most important derived units; knows other systems of measurement units.	correctly names individual levels of access to objects and their security mechanisms; selects tools specialized in measuring selected chemical quantities	[SW2] presentation/project/paper/ report [SW3] text preparation/written work
[BJORL3_W02] Understands the role of physical and chemical experimentation, mathematical theoretical models approximating reality, and computer simulations in scientific research methodology; is aware of technological, apparatus, and methodological limitations in scientific research.	Recognizes UNIX working environments; describes the usefulness of known system tools and programs	[SW2] presentation/project/paper/ report [SW3] text preparation/written work

Subject contents

Linux work environment: accounts, passwords, security; operations on files and directories; text editors; connection to a remote system; use of Internet resources (mail, search engines, instant messenger); office package - advanced text editor, graph creator of simple and complex mathematical functions and multimedia presentations; tools for creating and visualizing chemical structures; graphics editing; creation of own website in a simple CMS environment.

Prerequisites and co-requisites

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
exercises: assessment of reports/ reports from individual exercises	51.0%	100.0%

Recommended reading

Basic literature	not applicable
Supplementary literature	not applicable
eResources addresses	

Example issues/ example questions/ tasks being completed

- draw the nicotine structure in the given program
- format the attached text according to the requirements of the thesis
- optimize vasopressin structure

Work placement

Not applicable

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