

Subject card

Subject name and code	Application programs in chemistry, PG_00179585						
Field of study	Chemistry, Environmental Protection						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2026/2027		
Education level	Master's studies		Subject group		Optional subject group		
Mode of study	full-time studies		Mode of delivery		e-learning		
Year of study	2		Language of instruction		Polish		
Semester of study	4		ECTS credits		1.0		
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	15.0	0.0	0.0	0.0	0.0	15
	E-learning hours included: 15.0						
	Additional information: - multimedia presentation - problem development with issues for self-learning - discussion on the subject forum						
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	15		5.0		10.0	30
Subject objectives	To prepare the student to effectively use available software tools for visualization, measurement and archiving of chemical compounds in various representations and formats, also for the assessment of their physicochemical properties.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[CHEMMU2_U06] Presents the results of scientific discoveries in chemistry and related disciplines in an understandable way.		The student is able to select appropriate tools to convey the required content.		[SU4] test/exam - oral or written		
	[CHEMMU2_W09] Classifies specialist IT tools used in statistical evaluation of experiment results.		The student understands the differences between statistical and directed processing.		[SW4] test/exam - oral or written		
	[CHEMMU2_K05] Understands the need for independent search of information in scientific literature and popular science magazines.		The student is able to skillfully find tools useful in solving the practical problem presented to him.		[SK4] test/exam - oral or written		
	[CHEMMU2_W08] Demonstrates knowledge of theoretical computational and IT methods used to solve problems in chemistry.		The student distinguishes between compression tools and processing tools.		[SW4] test/exam - oral or written		
Subject contents	- structured data visualization software - compression software - format conversion software - cryptography and encryption elements						
Prerequisites and co-requisites							

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	multi-component online test; one 51.0% 100.0% test for each of the topics covered; the final grade is the arithmetic mean of all tests	51.0%	100.0%
Recommended reading	Basic literature	sources are provided directly in each of the topics covered	
	Supplementary literature	-	
	eResources addresses		
Example issues/ example questions/ tasks being completed	• overview of RasMol capabilities • types of checksums and their applications		
Work placement	Not applicable		

Document generated electronically. Does not require a seal or signature.