

Subject card

Subject name and code	Application programs in chemistry, PG_00179585						
Field of study	Chemistry						
Date of commencement of studies	October 2026	Academic year of realisation of subject			2027/2028		
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: <ul style="list-style-type: none"> 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_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		
	[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_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_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		
Subject contents	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> • overview of RasMol capabilities • types of checksums and their applications 		
Work placement	Not applicable		

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