University of Gdańsk

Subject card

Subject name and code	Introduction to Molecular graphics, PG_00171098						
Field of study	Chemical Business, Chemistry, Environmental Protection						
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	English			
Semester of study	3		ECTS credits	4.0			
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	30.0	0.0	0.0	0.0	0.0	30
	E-learning hours included: 30.0						
	Additional information: • multimedia presentation • problem development with issues for self-knowledge evaluation • discussion on the 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	30		10.0	60.0	100	
Subject objectives	To prepare the student to utilize the full capabilities of available molecular graphics tool programs.						

<table>
<tr><td>Learning outcomes</td><td>
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<tr><th>Course outcome</th><th>Subject outcome</th><th>Method of verification</th></tr>
<tr><td>[CHEMMU2_U09] Has deepened ability to prepare various forms of oral presentations on chemistry in Polish and English.</td><td>the student proposes the best methods of visualizing chemical compounds, shows creativity in preparing chemical presentations</td><td>[SU4] test/exam - oral or written</td></tr>
<tr><td>[CHEMMU2_U06] Presents the results of scientific discoveries in chemistry and related disciplines in an understandable way.</td><td>the student assesses the usefulness of types of graphical representations in presenting results</td><td>[SU4] test/exam - oral or written</td></tr>
<tr><td>[CHEMMU2_K07] Can think and act in an entrepreneurial manner.</td><td>the student names the projection methods and defines the scope of information transmitted in each of the molecular representations</td><td>[SK4] test/exam - oral or written</td></tr>
<tr><td>[CHEMMU2_K05] Understands the need for independent search of information in scientific literature and popular science magazines.</td><td>the student recognizes the types of graphical representations of any chemical compounds, classifies the types of representations</td><td>[SK4] test/exam - oral or written</td></tr>
<tr><td>[CHEMMU2_W14] Explains concepts and principles in the field of industrial property and copyright protection and recalls knowledge about the management of intellectual property resources; is able to use patent information.</td><td>the student classifies the types of intellectual property protection and understands the need to mark the ownership of one's own products</td><td>[SW4] test/exam - oral or written</td></tr>
<tr><td>[CHEMMU2_W07] Selects experimental and theoretical techniques to the extent necessary to understand the description and modelling of medium complexity chemical processes.</td><td>the student explains the differences between straight and cross vision, illustrates the benefits of using selected presentation methods</td><td>[SW4] test/exam - oral or written</td></tr>
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<tr><td>Subject contents</td><td>Outline of the problems of representing chemical structures on paper and screen, history of the development of presentation techniques, hardware and computer animations, stereography, color conventions and presentation models - examples and applications. Basic issues related to the protection of intellectual property.</td></tr>
<tr><td>Prerequisites and co-requisites</td><td></td></tr>
<tr><td>Assessment methods and criteria</td><td>
<table>
<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td>multi-component online test; one test for each of the topics covered; the final grade is the arithmetic mean of all tests</td><td>51.0%</td><td>100.0%</td></tr>
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<tr><td>Recommended reading</td><td>
<table>
<tr><td>Basic literature</td><td>sources are provided directly in each of the topics covered</td></tr>
<tr><td>Supplementary literature</td><td>-</td></tr>
<tr><td>eResources addresses</td><td></td></tr>
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<tr><td>Example issues/ example questions/ tasks being completed</td><td>• color conventions
• graphic models
• history and development of computer animation</td></tr>
<tr><td>Work placement</td><td>Not applicable</td></tr>
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