

Subject card

Subject name and code	Diploma lecture - Biological activity and synthesis of glycopeptides and their precursors, PG_00081844						
Field of study	Chemistry						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2027/2028		
Education level	Bachelor's studies		Subject group		Obligatory subject group in the field of study Optional subject group		
Mode of study	full-time studies		Mode of delivery		at the university		
Year of study	3		Language of instruction		Polish		
Semester of study	6		ECTS credits		2.0		
Learning profile	academic		Assessment form		credit		
Conducting unit	Faculty of Chemistry -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		prof. dr hab. Adam Prahł				
	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: 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	30		5.0		15.0	50
Subject objectives	Introducing students to basic issues regarding the synthesis and analysis of peptide, carbohydrate and glycopeptide precursors.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[CHEML3_K01] Identifies the level of her/his own knowledge and skills and the need for continuous learning and personal development.		Understands the need for further education and development of skills.		[SK1] oral statement/conversation/discussion		
	[CHEML3_W02] Describes the properties of elements and the most important chemical compounds, enumerates the methods of their preparation and methods of analysis.		Knows the structure and properties of selected groups of organic compounds, is able to assess the methods of obtaining and characterizing them.		[SW4] test/exam - oral or written		
	[CHEML3_W03] Explains the relationship between the structure of matter and its observed properties.		Understands and explains the relationships between the structure of biologically active compounds and their activity.		[SW4] test/exam - oral or written		
	[CHEML3_U08] Presents in an understandable way the basic facts about chemistry using a scientific language typical of chemical sciences.		Uses correct chemical language to describe processes related to the activity of biologically active substances.		[SU4] test/exam - oral or written		
Subject contents	Characterization of amino acids and sugars, synthesis of peptides, glycoproteins and simple sugar compounds, characterization of methods for purification and identification of biomolecules (chromatography, electrophoresis, IR spectroscopy, UV-VIS, NMR, mass spectrometry), role and functions of peptides, proteins, sugars and glycoproteins in the body, characteristics of selected peptides and sugars.						
Prerequisites and co-requisites	Passed subject: Organic Chemistry.						

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Written exam.	50.0%	100.0%
Recommended reading	Basic literature	A. Wiśniewski, J. Madaj, Basics of sugar chemistry, Agra-Enviro Lab., Poznań-Gdańsk 1997, ISBN 83-904998-2-7 H.D. Jakubke, H. Jeschkeit, Amino acids, peptides, proteins, PWN, Warszawa 1989	
	Supplementary literature	No requirements.	
	eResources addresses		
	Example issues/ example questions/ tasks being completed	Peptide synthesis methods. Mutarotation and its consequences.	
Work placement	Not applicable		

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