

Subject card

Subject name and code	Proteomics. Analysis of proteome., PG_00121223						
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		at the university		
Year of study	2		Language of instruction		English		
Semester of study	3		ECTS credits		4.0		
Learning profile	academic		Assessment form		credit		
Conducting unit	Faculty of Chemistry -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		prof. dr hab. Adam Lesner				
	Teachers		prof. dr hab. Adam Lesner				
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		65.0	100
Subject objectives	Familiarize students with all the issues listed in the curriculum content of the lecture						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[CHEMMU2_K05] Understands the need for independent search of information in scientific literature and popular science magazines.		The student makes proper use of scientific literature and specific schemes for purification of biomolecules.		[SK4] test/exam - oral or written		
	[CHEMMU2_W01] Uses knowledge of spectroscopic methods of chemical compound analysis.		The student can describe and give examples of the application of spectroscopic techniques in the analysis of biological compounds.		[SW4] test/exam - oral or written		
	[CHEMMU2_U04] Applies acquired knowledge of chemistry and related scientific disciplines.		The student uses chemical terminology at least correctly.		[SU4] test/exam - oral or written		
	[CHEMMU2_W03] Demonstrates extended knowledge in the field of modern measuring techniques used in chemical analysis.		The student is able to describe selected separation techniques of biomolecules, in the context of the sustainability of the bio-molecule.		[SW4] test/exam - oral or written		
	[CHEMMU2_K01] Knows the limitations of her/his own knowledge; understands the need for further education and can inspire other people to do so.		The student deepens the content received in the lecture.		[SK4] test/exam - oral or written		
	[CHEMMU2_U03] Finds necessary information in specialist literature, databases and other sources, lists basic scientific journals in chemistry.		The student analyzes the literature data and, based on it, is able to determine the course of the selected experiment.		[SU4] test/exam - oral or written		
Subject contents	Properties of biomolecules. Chromatography (size exclusion, ionic, reverse phase, hydrophobic, covalent, affinity and others). Electrophoresis (planar, vertical) of proteins and nucleic acids in native and denaturing condition. Mass spectrometry assisted analysis						

Prerequisites and co-requisites	Basis of Biochemistry		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	written exam	51.0%	100.0%
Recommended reading	Basic literature	Literature required to pass the course: broad range of scientific articles focused on the lecture topic	
	Supplementary literature	Non applicable	
	eResources addresses		
Example issues/ example questions/ tasks being completed	1. Affinity chromatography 2. Size exclusion 3. Electrophoretic separation		
Work placement	Not applicable		

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