University of Gdańsk

Subject card

Subject name and code	Modern methods in biochemical analysis, PG_00154547						
Field of study	Medical Biology						
Date of commencement of studies	October 2025		Academic year of realisation of subject	2026/2027			
Education level	Bachelor's studies		Subject group	Obligatory subject group in the field of study Optional subject group Subject group related to scientific research in the field of study			
Mode of study	full-time studies		Mode of delivery	at the university			
Year of study	2		Language of instruction	Polish			
Semester of study	3		ECTS credits	2.0			
Learning profile	academic		Assessment form	credit			
Conducting unit	Laboratory of Microbial Biochemistry -> Department of General and Medical Biochemistry -> Faculty of Biology -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Dorota Kuczyńska-Wiśnik				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	15.0	0.0	0.0	0.0	15
	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	15		3.0	32.0	50	
Subject objectives	Acquiring the ability to design experiments using known methods of biochemical analysis and interpretation of results						

Learning outcomes

Course outcome	Subject outcome	Method of verification
[BIOLMEDL3_U15] learns independently, in a focused manner	learns to independently design experiments and interpret results in a targeted way	[SU3] text preparation/written work [SU4] test/exam - oral or written
[BIOLMEDL3_K01] understands the need for lifelong learning and to update his/her knowledge of medical biology and related disciplines	understands the need for lifelong learning and updating knowledge in the field of medical biology and related disciplines	[SK1] oral statement/conversation/ discussion [SK8] observation of student's independent or team work
[BIOLMEDL3_K03] is aware of his/ her own limitations and knows when to seek expert assistance	is aware of his own limitations and knows when to turn to experts	[SK8] observation of student's independent or team work
[BIOLMEDL3_W12] is oriented in the development and current state of knowledge and the latest trends in medical biology; indicates their relationship with other disciplines of natural or medical sciences	is familiar with the development and current state of knowledge and the latest trends in the field of biochemical analysis methods used in medical biology; indicates their relationship with other disciplines of natural or medical sciences	[SW4] test/exam - oral or written [SW1] oral statement/ conversation/discussion
[BIOLMEDL3_U09] has the ability to give oral presentations in Polish or English on specific issues in medical biology	has the ability to give oral presentations in Polish on specific issues related to the use of the discussed methods	[SU1] oral statement/conversation/ discussion
[BIOLMEDL3_U05] synthesises data from different sources and draws appropriate conclusions from them	synthesizes data from various sources and draws appropriate conclusions on this basis	[SU1] oral statement/conversation/ discussion
[BIOLMEDL3_W16] explains the theoretical basis of experimental methods and lists the most important techniques of biological sciences that can be applied to medical biology and diagnostics	lists the most important techniques used in protein analysis, explains the theoretical basis of these methods and indicates their application in medical biology and diagnostics	[SW4] test/exam - oral or written
[BIOLMEDL3_U11] is able to use language specialized for medical biology in a way that is clear and accessible to both specialists and non-specialists alike	can use language specialized in medical biology in a way that is understandable and accessible to both specialists and non-specialists	[SU1] oral statement/conversation/ discussion

Subject contents

The aim of the exercises is to expand students' knowledge regarding the scope of application of the discussed techniques. Based on current scientific publications, exemplary applications of selected techniques in cognitive and diagnostic research will be discussed.

Prerequisites and co-requisites

general and analytical chemistry; organic chemistry; knowledge of the structure and function of proteins and nucleic acids as well as basic biological processes occurring in the cell

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
test 1	51.0%	40.0%
term work	51.0%	20.0%
test 2	51.0%	40.0%

Recommended reading

Basic literature	Kraj A., Drabik A., Silberring J. (2010) Proteomika i metabolomika, Wydawnictwa Uniwersytetu Warszawskiego and articles in specialized journals
Supplementary literature	articles in specialized journals
eResources addresses	

Example issues/ example questions/ tasks being completed

Work placement

Not applicable

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