

Subject card

Subject name and code	Plant-derived substances in diagnostics, PG_00209158						
Field of study	Medical Biology						
Date of commencement of studies	October 2026		Academic year of realisation of subject		2028/2029		
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	3		Language of instruction		Polish		
Semester of study	5		ECTS credits		2.0		
Learning profile	academic		Assessment form		credit		
Conducting unit	Department of Experimental Biology and Plant Biotechnology -> Faculty of Biology -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Wojciech Pokora				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	30.0	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		6.0		14.0	50
Subject objectives	To familiarise students with the practical aspects of the use of plant-derived substances in basic laboratory research and in biochemical and genetic diagnostics.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[BIOLMEDL3_K06] Is responsible for the equipment/materials entrusted to him and his own work and respects the work of others		Graduates are responsible for the equipment/materials entrusted to them and their own work, and respect the work of others		[SK8] observation of student's independent or team work		
	[BIOLMEDL3_W11] explains the relationship between the achievements of biology and related disciplines and the possibilities of their use in neuroscience and molecular-biochemical analysis, which can have an impact on socio-economic life		The graduate explains the relationship between plant-derived substances and the potential for their use in neuroscience and diagnostics.		[SW2] presentation/project/paper/report		
	[BIOLMEDL3_U01] is able to use and operate basic research equipment and tools employed in molecular-biochemical analysis or neurobiology and, following the correct sequence of steps, carries out simple physical, biological or chemical observations and measurements in laboratory work in the field of biological or medical sciences		The graduate uses basic apparatus and, following the correct sequence of operations, performs simple biological or chemical observations and measurements in laboratory work.		[SU6] demonstration of practical skills		

Subject contents	Methodology for working with plant material: techniques for collecting and storing test material, tissue homogenisation, isolation of substances for analysis. In vitro micropropagation as a method of obtaining plant material for the production of selected substances of diagnostic interest. Identification, isolation and testing of the activity of selected plant chemicals of potential diagnostic and therapeutic interest. Methods for creating stable and unstable (transient) plant expression systems. Selected techniques for the isolation, identification and activity testing of proteins of diagnostic significance, including recombinant proteins derived from plant tissues		
Prerequisites and co-requisites	lack		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	completion of practical work for credit	51.0%	50.0%
	written project	51.0%	50.0%
Recommended reading	Basic literature	Malepszy S. (2018). Biotechnologia roślin. Wydawnictwo Naukowe PWN, Warszawa. (wybrane zagadnienia)	
	Supplementary literature	Alvarez MA. (2014). Plant Biotechnology for Health. Springer International Publishing Switzerland (wybrane zagadnienia) Kopcewicz J., Lewak S. (red.). 2012. Fizjologia roślin. Wyd. PWN, Warszawa (wybrane zagadnienia) Szmidt-Jaworska, Kopcewicz J.(red.). 2020. Fizjologia roślin. Wyd. PWN, Warszawa Taiz L., Zeiger E. (red.). 2015. Plant physiology. The Benjamin/Cummings Publ. Comp. Inc. (wybrane zagadnienia) Tukaj Z. (red.). 2012. Przewodnik do ćwiczeń z fizjologii roślin. Wyd. Uniwersytetu Gdańskiego (wybrane zagadnienia)	
	eResources addresses		
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		

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