

Subject card

Subject name and code	Plant secondary metabolites in biology and medicine, PG_00211680						
Field of study	Medical Biology						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2026/2027		
Education level	Master's studies		Subject group		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		1.0		
Learning profile	academic		Assessment form		credit		
Conducting unit							
Name and surname of lecturer (lecturers)	Subject supervisor		dr Darya Harshkova				
	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						
	Additional information:						
	conversational lecture, some classes are conducted outside the University premises						
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		2.0		8.0	25
Subject objectives	Familiarize students with the function of secondary metabolites in plant organisms and their role in the phenomenon of allelopathy; the possibilities of using the knowledge of the occurrence, structure and biological activity of plant secondary metabolites in biological and medical field, and the evaluation of the effects of plant secondary products on the human body.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[BIOLMEDMU2_U01] can proficiently, but critically, use the scientific literature and databases necessary in the activities of medical biology and related disciplines		The graduate shows initiative and self-reliance in acquiring scientific literature on plant secondary metabolites in biology and medicine		[SU2] presentation/project/paper/report		
	[BIOLMEDMU2_W01] has an in-depth knowledge of scientific fields and disciplines relevant to medical biology and the studied specialty and knows their main development trends		The graduate has an in-depth knowledge of plant secondary metabolism in biology and medicine		[SW2] presentation/project/paper/report		
	[BIOLMEDMU2_K07] is ready to formulate opinions on various aspects of professional activities		Graduate has the ability to give oral speeches in Polish on secondary products of plants and their use in biology and medicine		[SK1] oral statement/conversation/discussion		
	[BIOLMEDMU2_W02] is oriented to the currently debated problems in medical biology and related disciplines		The graduate is familiar with information on secondary plant metabolites in biology and medicine from various sources and on this basis draws reasonable conclusions		[SW2] presentation/project/paper/report		

Subject contents	The most important products of plant secondary metabolism and their importance for the pharmaceutical and biotechnology industries. Getting to know the pathways biosynthesis of secondary metabolites, their biological activity and chemical and biotechnological methods of their production. The effects of selected of secondary metabolites of plants on animal/human organisms - mechanism of interaction - toxicity and detoxication. Basic methods Isolation, identification and purification of plant secondary metabolites.		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	report/oral presentation	51.0%	75.0%
	active participation in discussions; observation of student work and attitudes	51.0%	25.0%
Recommended reading	Basic literature	Kołodziejczyk A., 2006. Naturalne związki organiczne. Wydawnictwo Naukowe PWN Kopcewicz J., Lewak S., 2005 Fizjologia roślin. Wydawnictwo Naukowe PW	
	Supplementary literature	Selected scientific papers Cseke L.J., Kirakosyan A., Kaufman P.B., Warber S.L., Duke J.A., Brielmann H. L., 2006. Natural Products from Plants. CRC Press, Taylor & Francis Group Taiz L., Zeiger E. (red.). 2010. Plant Physiology. The Benjamin/Cummings Publ. Comp. Inc	
	eResources addresses		
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		

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