

Subject card

Subject name and code	Plant physiology under stress conditions, PG_00154020						
Field of study	Biology						
Date of commencement of studies	October 2024		Academic year of realisation of subject		2026/2027		
Education level	undergraduate 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	5		ECTS credits		1.0		
Learning profile	academic		Assessment form				
Conducting unit	Pracownia Fizjologii Roślin i Toksykologii -> Katedra Biologii Eksperymentalnej i Biotechnologii Roślin -> Faculty of Biology						
Name and surname of lecturer (lecturers)	Subject supervisor		dr Agnieszka Baścik-Remisiewicz				
	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: Analysis of texts with discussion, multimedia presentations prepared by students						
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	1. To acquaint students with the influence of abiotic natural and anthropogenic factors on physiological processes in plants and with the adaptation of plants to changing environmental conditions. 2. To acquaint students with the basic mechanisms of pollutant detoxification in plants. 3. To acquaint students with the possibilities of using plants to clean the environment of chemical pollutants.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[BIOLL3_W10] The graduate is familiar with the development and current state of knowledge and the latest trends in biology, as well as their relationship with other natural disciplines		The graduate is familiar with the development and current state of knowledge in the field of physiology stress of plant organisms and the latest biological trends and their relationship with other natural disciplines.		[SW1] oral statement/ conversation/discussion [SW2] presentation/project/paper/ report [SW3] text preparation/written work		
	[BIOLL3_U10] The graduate will be able to prepare oral presentations in Polish and a foreign language on specific topics in the field of biology		The graduate has the ability to give oral presentations in Polish on specific issues in plant physiology under stress.		[SU1] oral statement/conversation/ discussion [SU2] presentation/project/paper/ report		
	[BIOLL3_K01] The graduate is prepared to evaluate their own knowledge, understand the need for continuous learning and development, and is open to new ideas		The graduate are aware of the limitations of their own knowledge and understand the need for continuous learning and development and is open to new ideas.		[SK8] observation of student's independent or team work		

Subject contents	Influence of natural abiotic factors on plant physiological processes.		
	Influence of substances of anthropogenic origin on the vital activities of plants.		
	Selected mechanisms of detoxification of toxic substances in plant cells.		
	The use of plants to cleanse the environment of chemical pollutants.		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	essay	51.0%	50.0%
	multimedia presentation	51.0%	50.0%
Recommended reading	Basic literature	Kopcewicz J., Lewak S. (red.). (2012). Fizjologia roślin. Wyd. PWN, Warszawa.	
		Szmidt-Jaworska A., Kopcewicz J (red).2020. Fizjologia Roślin Wyd. PWN, Warszawa	
		Selected articles from scientific journals.	
	Supplementary literature	Aksmann, A., Pokora, W., Baścik-Remisiewicz, A., & Zalewska, M. (2022). Microalgal Metal Remediation from Industrial Wastewater. In Algal Biorefineries and the Circular Bioeconomy (pp. 147-181). CRC Press.	
Fitter A.H., Hay R.K.M. (2002). Environmental Physiology of Plants. Academic Press, A Division of Harcourt, Inc., UK.			
Hirt H., Shinozaki K. (red.). (2004). Plant Responses to Abiotic Stress. Springer-Verlag. Prasad M.N.V. (1996). Plant Ecophysiology. J. Wiley & Sons, New York.			
	eResources addresses	Adresy na platformie eNauczanie:	
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		

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