

Subject card

Subject name and code	Plant ecophysiology, PG_00154656						
Field of study	Ekofizjologia roślin (Ćw. laboratoryjne)						
Date of commencement of studies	October 2023		Academic year of realisation of subject		2025/2026		
Education level	Bachelor'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	3		Language of instruction		Polish		
Semester of study	5		ECTS credits		1.0		
Learning profile	academic		Assessment form		credit		
Conducting unit	Laboratory of Plant Physiology and Toxicology -> Department of Experimental Biology and Plant Biotechnology -> Faculty of Biology -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr Monika Majewska				
	Teachers		dr Monika Majewska				
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	15.0	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		7.0	25
Subject objectives	Familiarizing students with the course of basic physiological processes in plants and their dependence on environmental factors affecting plant organisms. Introducing students to the current state of knowledge and the latest trends in plant ecophysiology, as well as their relationship with other natural science disciplines. Preparing students to conduct basic research in plant physiology and ecophysiology						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[OZPL3_K07] The graduate is prepared to demonstrate responsibility for the equipment/ materials entrusted and respects the work of others	The graduate is prepared to demonstrate responsibility for assigned equipment and materials and respects the work of others.	[SK8] obserwacja samodzielnej lub zespołowej pracy studenta
	[OZPL3_U06] The graduate is able to make observations and perform basic physical, biological and chemical measurements in the field or laboratory	The graduate is able to conduct observations and perform basic laboratory measurements in the field of plant ecophysiology.	[SU1] wypowiedź ustna/rozmowa/ dyskusja [SU6] demonstracja umiejętności praktycznych [SU8] obserwacja samodzielnej lub zespołowej pracy studenta
	[OZPL3_U07] The graduate is able to draw correct conclusions on the basis of analysis and synthesis of data from various sources	The graduate is able to draw correct conclusions based on the analysis and synthesis of data from various sources.	[SU1] wypowiedź ustna/rozmowa/ dyskusja
	[OZPL3_K01] The graduate is ready to recognise the limitations in his/her own knowledge and understands the need for continuous learning and development	The graduate is prepared to recognize the limitations of their own knowledge and understands the need for continuous learning and development.	[SK1] wypowiedź ustna/rozmowa/ dyskusja
	[OZPL3_K06] The graduate is prepared to demonstrate responsibility for their own and others' safe working conditions in the laboratory and in the field, and is able to recognise hazardous situations and take appropriate action	The graduate is prepared to ensure safe working conditions for themselves and others in the laboratory and in the field, and is able to recognize hazardous situations and take appropriate actions.	[SK8] obserwacja samodzielnej lub zespołowej pracy studenta
	[OZPL3_W03] The graduate understands the basic physiological processes and their relationship to the organism's adaptation to changing environmental conditions	The graduate has advanced knowledge and understanding of basic plant physiological processes and their relationship to the adaptation of plant organisms to changing environmental conditions.	[SW1] wypowiedź ustna/rozmowa/ dyskusja [SW3] opracowanie tekstowe/ praca pisemna
Subject contents	Plant water balance. The influence of environmental factors on the water management of plants. Analysis of the mineral composition of plant tissues and organs, mineral nutrition of plants, soil properties. The influence of light conditions and toxic substances (herbicides) on the photosynthesis process.		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	written knowledge test	51.0%	60.0%
	work cards	51.0%	40.0%
Recommended reading	Basic literature	- Aksmann A., Baścik-Remisiewicz A., Burkiewicz K., Matusiak-Mikulin K., Pokora W., Synak R., Tukaj Z. (red.). 2012. Przewodnik do ćwiczeń z fizjologii roślin. Wydawnictwo UG. - Szmidt-Jaworska A., Kopcewicz J. (red.). 2020. Fizjologia roślin. Wyd. PWN, Warszawa.	
	Supplementary literature	- Kopcewicz J., Lewak S. (red.). 2012. Fizjologia roślin. Wyd. PWN, Warszawa - Larcher, W. 2003. Physiological plant ecology: ecophysiology and stress physiology of functional groups. Springer. - Lambers H., Chapin III F. S., Pons T. L. 2008. Plant Physiological Ecology. 2nd ed. Springer. - Taiz L., Zeiger E., et al. 2015. Plant physiology and development. Sinauer Associates, Inc. - Eckstein, A. (2016). Ruchy chloroplastów indukowane światłem niebieskim. Postępy Biologii Komórki, 43(4).	
	eResources addresses		
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		

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