

Subject card

Subject name and code	Plant in vitro cultures, PG_00154480						
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		Optional subject group		
Mode of study	full-time studies		Mode of delivery		at the university		
Year of study	3		Language of instruction		Polish english		
Semester of study	6		ECTS credits		2.0		
Learning profile	academic		Assessment form				
Conducting unit	Katedra Biologii Eksperymentalnej i Biotechnologii Roślin -> Faculty of Biology						
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	15.0	0.0	0.0	0.0	0.0	15
	E-learning hours included: 0.0						
	Additional information: Conversation lecture						
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		33.0	50
Subject objectives	To familiarise students with the complexity and diversity of biological processes occurring in plant tissues grown in in vitro culture. and knowledge of planning specialised experimental work.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[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		Graduates evaluate their own knowledge and understand the need for continuous learning and development and are open to new ideas		[SK8] observation of student's independent or team 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		Graduates are able to prepare oral presentations in a foreign language on in vitro plant culture issues		[SU2] presentation/project/paper/report		
	[BIOLL3_W14] The graduate knows the theoretical basis of experimental methods and the most important techniques of the biological sciences		Graduates know the theoretical basis of experimental methods and the most important techniques of plant in vitro cultures		[SW2] presentation/project/paper/report		
Subject contents	Basic methods for conducting in vitro cultures. Hormonal regulation of somatic variation in selected plant tissues. Elimination of plant bacteria and viruses by apical meristem cultures and thermo- and chemotherapy. Characterisation of the physiological state of cell suspensions. Induction of biosynthesis, derivation and identification of selected secondary metabolites. Obtaining haploid plants for further breeding work. Overcoming barriers to non-crossing by in vitro pollination. Cultures of mature and immature hybrid embryos.						
Prerequisites and co-requisites	lack						
Assessment methods and criteria	Subject passing criteria		Passing threshold		Percentage of the final grade		
	written exam		51.0%		100.0%		

Recommended reading	Basic literature	Loyola-Vargas V.M., Vázquez-Flota F. (red.). 2006. Plant Culture Protocols. W: Methods in molecular B Jersey.
	Supplementary literature	Eckstein, A. (2017). Auksyny: wszechstronne cząsteczki sygnałowe. Poś Eckstein, A., Zięba, P., & Gabrys, H. (2012). Sugar and light effects on th in vitro. Journal of Plant Growth Regulation, 31(1), 90-101.
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	

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