

Subject card

Subject name and code	Plant anatomy, PG_00207394						
Field of study	Biology						
Date of commencement of studies	October 2026		Academic year of realisation of subject		2026/2027		
Education level	Bachelor's studies		Subject group		Obligatory subject group in the field of study 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	1		Language of instruction		Polish		
Semester of study	2		ECTS credits		2.0		
Learning profile	academic		Assessment form		credit		
Conducting unit	Laboratory of Plant Cytology and Embryology -> Department of Experimental Biology and Plant Biotechnology -> Faculty of Biology -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr Emilia Brzezicka				
	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		2.0		18.0	50
Subject objectives	- Understanding the basic and essential concepts of the anatomy of flowering plants. - Overview of histology and organography of flowering plants - Understanding the basic concepts related to tissue structure and functional tissue systems in plants						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
Subject contents	Plant cell structure. Structure and functioning of meristems as a source of stem cells. Basics of histogenesis. Structure and functions of plant tissues. Morphology and anatomy of higher plant organs: stems (primary structure and secondary growth); leaves (anatomy of unifacial and bifacial leaves; differences in leaf anatomy between plants with varying water access); roots (primary and secondary structure); introduction to plant embryology (flower anatomy atructure of male and female gametophytes, seeds.						
Prerequisites and co-requisites							
Assessment methods and criteria	Subject passing criteria		Passing threshold		Percentage of the final grade		
	Method used to conduct experiments and observations, results documentation and interpretation, notes, presentations.		51.0%		25.0%		
	Tests		51.0%		75.0%		

Recommended reading	Basic literature	Literature used during laboratory • Hejnowicz Z. 2002. Anatomia i histogeneza roślin naczyniowych. PWN, Warszawa. • Steeves TA and Sawhney VK. 2017. Essentials of Developmental Plant Anatomy. Oxford University Press. • Eshel A, Tom Beeckman T. 2013. Plant Roots: The Hidden Half, Fourth Edition. CRC Press • Williams, M.E. (October 23, 2012). Evolutionary and Developmental Origin of Leaves. Teaching Tools in Plant Biology: Lecture Notes. The Plant Cell (online), doi/10.1105/tpc.109.tt1109. • Braune W, Leman A, Taubert H. 1975. Praktikum z anatomii roślin. PWN, Warszawa • Gorczyński T. (red). 1979. Ćwiczenia z botaniki. PWN, Warszawa Literature studied by the student individually • Hejnowicz Z. 2002. Anatomia i histogeneza roślin naczyniowych. PWN, Warszawa. • Esau K. 1973. Anatomia roślin. PWRiL, Warszawa. • Braune W, Leman A, Taubert H. 1975. Praktikum z anatomii roślin. PWN, Warszaw
	Supplementary literature	• Crang, R., Lyons-Sobaski, S., Wise, R. (2018). Plant anatomy: a concept-based approach to the structure of seed plants. <i>Springer</i>. • Malinowski E. (1973). Anatomia roślin. PWN, Warszawa • Brzezicka, E., Karwowska, K., Kozieradzka-Kiszkurno, M., Chernetsky, M. (2015). Leaf micromorphology of <i>Kalanchoë laciniata</i> (Crassulaceae). <i>Modern Phytomorphology</i>, 8. • Karwowska, K., Brzezicka, E., Kozieradzka-Kiszkurno, M., & Chernetsky, M. (2015). Anatomical structure of the leaves of <i>Crassula cordata</i> (Crassulaceae). <i>Modern Phytomorphology</i>, (8), 53-54. • Brzezicka, E., Kozieradzka-Kiszkurno, M. (2025). Haustorial processes during the female gametophyte formation in <i>Rosularia pallida</i> (Schott & Kotschy) Stapf (Crassulaceae). <i>Plant Reproduction</i>, 38(2), 11.
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Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	

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