University of Gdańsk

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%

<table>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td>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</td></tr>
<tr><td>Supplementary literature</td><td>• Crang, R., Lyons-Sobaski, S., Wise, R. (2018). Plant anatomy: a concept-based approach to the structure of seed plants. Springer.
• Malinowski E. (1973). Anatomia roślin. PWN, Warszawa
• Brzezicka, E., Karwowska, K., Kozieradzka-Kiszkurno, M., Chernetskyy, M. (2015). Leaf micromorphology of Kalanchoë laciniata (Crassulaceae). Modern Phytomorphology, 8.
• Karwowska, K., Brzezicka, E., Kozieradzka-Kiszkurno, M., & Chernetskyy, M. (2015). Anatomical structure of the leaves of Crassula cordata (Crassulaceae). Modern Phytomorphology, (8), 53-54.
• Brzezicka, E., Kozieradzka-Kiszkurno, M. (2025). Haustorial processes during the female gametophyte formation in Rosularia pallida (Schott & Kotschy) Stapf (Crassulaceae). Plant Reproduction, 38(2), 11.</td></tr>
<tr><td>eResources addresses</td><td></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="2"></td></tr>
<tr><td>Work placement</td><td colspan="2">Not applicable</td></tr>
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