

Subject card

Subject name and code	Cell biology, PG_00154383						
Field of study	Biology						
Date of commencement of studies	October 2024		Academic year of realisation of subject		2024/2025		
Education level	undergraduate 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	1		ECTS credits		2.0		
Learning profile	academic		Assessment form				
Conducting unit	Faculty of Biology						
Name and surname of lecturer (lecturers)	Subject supervisor		prof. dr hab. Małgorzata Kozieradzka-Kiszkurno				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	0.0	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		4.0		16.0	50
Subject objectives	1. Introduction of the basic and most important issues in cell biology						
	2. Overview of cell organelles - structure and functions						
	3. Understanding basic issues regarding the structure and life cycle of a cell (cell division, growth and aging)						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[BIOLL3_W14] The graduate knows the theoretical basis of experimental methods and the most important techniques of the biological sciences	- The graduate explains the theoretical basis of experimental methods used in laboratory classes and lists the most important techniques used in cell biology.	[SW4] test/exam - oral or written
	[BIOLL3_W01] The graduate identify the constituent elements and explain the differences in the structure and function of prokaryotic and eukaryotic cells	- The graduate characterizes the basic components of a cell and explains the differences in the structure and functioning of prokaryotic and eukaryotic cells.	[SW4] test/exam - oral or written
	[BIOLL3_K06] The graduate is prepared to take responsibility for the equipment/materials entrusted to them and for their own work and that of others	- The graduate is aware of responsibility for the entrusted equipment (microscopes) and his/her work and respects the work of others.	[SK8] observation of student's independent or team work
	[BIOLL3_U01] The graduate will be able to use basic apparatus and research tools and follow the correct sequence of operations in laboratory and field work	- The graduate is aware of the use of basic research equipment and tools (light microscopes).	[SU1] oral statement/conversation/discussion [SU4] test/exam - oral or written
	[BIOLL3_W03] The graduate knows the structure and functional relationships at the cellular, tissue, organ and organismal levels	- The graduate presents the structure of the cell and functional relationships at the cellular, tissue, organ and organismal levels.	[SW4] test/exam - oral or written
Subject contents	[BIOLL3_U02] The graduate will be able to make observations individually and in teams, and carry out basic physical, biological and chemical measurements in the field or laboratory	- The graduate can interpret cytological preparations.	[SU1] oral statement/conversation/discussion [SU4] test/exam - oral or written
	1. Cell evolution		
	2. Biological membranes; transport across membranes		
	3. Extracellular matrix of plant and animal cells		
	4. Cell organelles		
	5. Cytoskeleton		
Prerequisites and co-requisites	6. Cell growth and division		
	7. Aging and cell death		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Test	51.0%	100.0%

Recommended reading	Basic literature	Alberts B. i in. 1999. Podstawy biologii komórki. PWN, Warszawa. Alberts B (red), Johnson A, Lewis J et al. Molecular Biology of the Cell. New York: Garland Science 2002 Bowes B.G, Mauseth J.D. 2008. Plant Structure. Jones & Bartlett Learning Kurczyńska EU, Borowska-Wykret D. 2007. Mikroskopia świetlna w badaniach komórki roślinnej. Ćwiczenia, PWN, Warszawa Litwin JA. 1999. Podstawy technik mikroskopowych. Wydawnictwo Uniwersytetu Jagiellońskiego, Kraków Rogalska S, J. Małuszyńska, M.J. Olszewska (red.). 2005. Podstawy cytogenetyki roślin, PWN, Warszawa Wojtaszek P., Michejda J., Ratajczak, Biologia komórki roślinnej. T.1 Struktura, T.2 Funkcja. PWN 2008/2009 Woźny A. i in. [red.] 2001. Podstawy biologii komórki roślinnej, Wyd. Naukowe UAM, Poznań
	Supplementary literature	Lack AJ Awans DE. 2003. Krótkie wykłady. Biologia roślin. PWN, Warszawa Kłyszczko-Stefanowicz L. 2002. Cytobiochemia. Biochemia niektórych struktur komórkowych, PWN, Warszawa Mauseth J.D.2016. Botany: An Introduction to Plant Biology, Jones & Bartlett Learning Brzezicka E., Kozieradzka-Kiszkurno M. (2021) Developmental, ultrastructural and cytochemical investigations of the female gametophyte in <i>Sedum rupestre</i> L. (Crassulaceae). <i>Protoplasma</i>, 258(3):529-546. Brzezicka E., Kozieradzka-Kiszkurno M. (2019) Female gametophyte development in <i>Sedum sediforme</i> (Jacq.) Pau (Crassulaceae): an anatomical, cytochemical and ultrastructural analysis. <i>Protoplasma</i>, 256(2):537-553.
	eResources addresses	Adresy na platformie eNauczenie:
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	

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