

Subject card

Mode of study	Subject name and code	Cell Biology Laboratory, PG_00054883								
Studies Feducation level First-cycle studies Subject group Obligatory subject group in the field of study Subject group related to scient research in the field of study Subject group related to scient research in the field of study Year of study 1	Field of study	Biotechnology								
Mode of study		October 2025		Academic year of realisation of subject			2025/2026			
Year of study 1	Education level	first-cycle studies		Subject group			field of study Subject group related to scientific			
Semester of study 2	Mode of study	Full-time studies		Mode of delivery			at the	at the university		
Learning profile general academic profile Assessment form assessment Conducting unit Department of Pharmaceutical Technology And Biochemistry -> Faculty Of Chemistry -> Wydziały Politechniki Gdańskiej Name and surname of lecturer (lecturers) Lesson types and methods of instruction Lesson types and methods of instruction Number of study hours Learning activity and number of study hours Learning activity The aim of the course is for students to acquire practical skills related to the structure and function of prokayotic and eukaryotic cells. The laboratory classes will use the knowledge gained in the previous semester as part of the lectures on the Fundamentals of Biology with Elements of Cell Biology. Learning outcomes Course outcome K6_W06 Course outcome K6_W06 The student is able to investigate and eukaryotic cells based on the analysis of the activity and inhibition of the expression of selected genes based on the analysis of the activity of various promoters. K6_U02 The student is able to explain and investigate the basic cell signaling, can test the activity and inhibition of the properties of the most important cellular biomolecules. Subject contents Examples of laboratory classes: 1. Analysis of the activity and represent the results of task tuffilment cellular biomolecules. Subject contents Examples of laboratory classes: 1. Analysis of the activity and various promoters. K6_U02 Examples of laboratory classes: 1. Analysis of the different ways cells move. 2. Determination of bacterial every sent to the results of task fulfilment cellular biomolecules. Subject contents Examples of laboratory classes: 1. Analysis of the different ways cells move. 2. Determination of be number of chromosomes in eukaryotic cells. 5. Comparison of cell distinctions of the number of chromosomes in eukaryotic cells. 5. Comparison of cell distinctions of the activity and inhibition of expressment of ability to activity of various promoters. 4. Determination of the activity and various promoters. 4. Determ	Year of study	1		·			Polish	Polish		
Conducting unit Department Of Pharmaceutical Technology And Biochemistry -> Faculty Of Chemistry -> Wydziały Politechniki Gdańskiej Subject supervisor Teachers Lesson types and methods of instruction Learning activity and number of study hours E-learning hours included: 0.0 Learning activity and number of study hours Winder of study 45 Subject objectives The aim of the course is for students to acquire practical skills related to the structure and function of prokaryotic and eukaryotic cells. The laboratory casses will use the knowledge gained in the previous semester as part of the lectures on the Fundamentals of Biology with Elements of Cell Biology. K6_W06 The student is able to investigate and explain the functions of the basic cell organelles. Understands the principles of cell signaling, can test the activity and inhibition of the expression of selected genes based on the analysis of the activity of various promoters. K6_U02 The student is able to investigate the basic biological processes in a prokaryotic and eukaryotic cells. The student is able to explain and projects Will Assessment of factual knowledge contained in written work and projects. K6_U02 The student is able to investigate the pasic biological processes in a prokaryotic and eukaryotic cells sheed on the properties of the most important cellular biomolecules. K6_U02 The student is able to explain and [SU1] Assessment of task united the principles of cell spinaling, can test the activity of various promoters. K6_U02 The student is able to explain and [SU1] Assessment of task united the properties of the most important cellular biomolecules. Subject contents Examples of laboratory classes: 1. Analysis of the different ways cells move. 2. Determination of prevention of one expersion of selecting and explain the function of gene expression -analysis of the activity and inhibition of gene expression of selecting and explain the function of gene expression -analysis of the activity and inhibition of gene expression -analys	Semester of study	2		<u> </u>			3.0			
Name and surname of lecturer (lecturers) Subject supervisor Subject supervisor Teachers	Learning profile	general academic profile					assessment			
Lesson types and methods of instruction								ziały		
Learning activity and number of study hours Learning outcomes The aim of the course is for students to acquire practical skills related to the structure and function of prokaryotic and eukaryotic cells. The laboratory classes will use the knowledge gained in the previous semester as part of the lectures on the Fundamentals of Biology with Elements of Cell Biology. Course outcome K6_W06 Course outcome Subject outcome K6_W06 The student is able to investigate and explain the functions of the basic cell organelles. Understands the principles of cell signaling, can test the activity and inhibition of the expression of selected genes based on the analysis of the activity of various promoters. K6_U02 The student is able to explain and investigate and explain the functions of the activity of various promoters. K6_U02 The student is able to explain and investigate and explain and explain the functions of the activity of various promoters. K6_U02 The student is able to explain and investigate the basic biological processes in a prokaryotic and eukaryotic cells based on the analysis of the activity of various promoters. K6_U02 The student is able to explain and investigate the basic biological processes in a prokaryotic and eukaryotic cells based on the properties of the most important cellular biomolecules. Subject contents Examples of laboratory classes: 1. Analysis of the different ways cells move. 2. Determination of bacterial sensitivity to bacteriophagy 3. Investigation of the activity and inhibition of gene expression - analysis of the activity and inhibi	Name and surname	Subject supervisor		dr hab. Ewa Augustin						
Number of study hours E-learning hours included: 0.0 D.0 d.5.0 D.0 D.0 d.5	of lecturer (lecturers)									
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Learning activity and number of study hours Learning activity Participation in didactic classes included in study plan		hours		0.0	45.0	0.0	0.0		45	
Consequence					 				ļ	
Subject objectives		Learning activity	classes includ				Self-study		SUM	
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The student is able to explain and investigate the basic biological processes in a prokaryotic and eukaryotic cells based on the properties of the most important cellular biomolecules. Subject contents				and explain the functions of the basic cell organelles. Understands the principles of cell signaling, can test the activity and inhibition of the expression of selected genes based on the analysis of the activity of various promoters. The student is able to explain and investigate the basic biological processes in a prokaryotic and eukaryotic cells based on the properties of the most important cellular biomolecules.			knowledge [SW3] Assessment of knowledge contained in written work and			
sensitivity to bacteriophagy. 3. Investigation of the activity and inhibition of gene expression - analysis of the activity of various promoters. 4. Determination of the number of chromosomes in eukaryotic cells. 5. Comparison of cell disintegration methods. 6. Morphology of plant and animal cells. Prerequisites And co-requisites The condition for participation in the laboratories is a positive grade in the exam in the subject Basics of Biology with Elements of Cell Biology in the 1st semester.							fulfilment [SU3] Assessment of ability to use knowledge gained from the subject [SU4] Assessment of ability to use methods and tools [SU5] Assessment of ability to			
and co-requisites The condition for participation in the laboratories is a positive grade in the exam in the subject Basics of Biology with Elements of Cell Biology in the 1st semester.	Subject contents	sensitivity to bacteriophagy. 3. Investigation of the activity and inhibition of gene expression - analysis of the activity of various promoters. 4. Determination of the number of chromosomes in eukaryotic cells. 5.								
Assessment methods Subject passing criteria Passing threshold Percentage of the final grade		The condition for participation in the laboratories is a positive grade in the exam in the subject Basics of						Basics of		
	Assessment methods	Subject passin	g criteria	Passing threshold			Per	Percentage of the final grade		
and criteria laboratory 60.0% 100.0%		l								

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Recommended reading	Basic literature	B. Alberts. Fundamentals of cell biology. 2006.				
	Supplementary literature	W. Kilarski. Fundamental stuctures of cell biology. PWN 2010.				
		W. Sawicki. Histology. PZWL, 2002.				
	eResources addresses	Adresy na platformie eNauczanie:				
Example issues/ example questions/ tasks being completed	Compare the known methods of counting cells.					
	What organelles differ an animal cell from a plant cell?					
	What method is used to stain eucariotic chromosomes?					
	What methods of cell disintegration do you know.					
	List the ways in which bacteria move.					
Work placement	Not applicable					

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