University of Gdańsk

Subject card

Subject name and code	, PG_00128787		
Field of study	Biology		
Date of commencement of studies	October 2023	Academic year of realisation of subject	2025/2026
Education level	Bachelor's 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	English
Semester of study	6	ECTS credits	2.0
Learning profile	academic	Assessment form	credit
Conducting unit			
Name and surname of lecturer (lecturers)	Subject supervisor	dr Anna Kloska	
	Teachers	dr Anna Kloska	

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

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	10.0	25.0	50

Subject objectives

To introduce methods for isolating animal cells and maintaining them in vitro; to demonstrate techniques for routine handling of animal cell lines; and to discuss fundamental cell-based assays and their applications.

Learning outcomes

Course outcome	Subject outcome	Method of verification
	Knowledge: - Student is familiar with the development and current state of knowledge in animal cell culture, including recent advances and emerging trends, and explains their links to other disciplines within the natural sciences. Skills: - Student independently searches for, evaluates, and uses biological information from a range of sources, including electronic databases and online resources. - Student uses specialist terminology related to animal cell culture accurately and appropriately, communicating in a clear and accessible manner to both experts and non-specialists. Social competences (attitudes): - Student recognizes the limits of their own knowledge, understands the need for continuous learning and professional development, and is open to new ideas and solutions in animal cell culture. - Stuedent understands and applies principles of honesty, reliability, and research integrity in scientific and professional work.	[SW4] test/exam - oral or written [SW1] oral statement/ conversation/discussion [SU4] test/exam - oral or written [SK4] test/exam - oral or written

<table>
<tr><td>Subject contents</td><td>- Equipment and organization of an animal cell and tissue culture laboratory
- Culture requirements: conditions, media, reagents, materials, and standard culture methods
- Types of animal cell cultures in vitro
- Primary cultures versus established cell lines
- Three-dimensional culture systems and tissue cultures
- Cell culture contamination: sources, prevention, detection, and troubleshooting
- Applications of animal cell culture in research and biotechnology
- Introduction to cell-based assays: principles, examples, and data interpretation</td></tr>
<tr><td>Prerequisites and co-requisites</td><td></td></tr>
<tr><td>Assessment methods and criteria</td><td><table><tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr><tr><td>test</td><td>51.0%</td><td>100.0%</td></tr></table></td></tr>
<tr><td>Recommended reading</td><td><table><tr><td>Basic literature</td><td>- Capes-Davis, A., Freshney, R.I., (2021) Freshneys Culture of Animal Cells: A Manual of Basic Technique and Specialized Applications, John Wiley & Sons Inc</td></tr><tr><td>Supplementary literature</td><td>- Segeritz, C. P., & Vallier, L. (2017). Cell Culture: Growing Cells as Model Systems In Vitro. Basic Science Methods for Clinical Researchers,151172. https://doi.org/10.1016/B978-0-12-803077-6.00009-6
- Langhans SA (2018) Three-Dimensional in Vitro Cell Culture Models in Drug Discovery and Drug Repositioning. Front. Pharmacol. 9:6. Doi: 10.3389/fphar.2018.00006</td></tr><tr><td>eResources addresses</td><td></td></tr></table></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td></td></tr>
<tr><td>Work placement</td><td>Not applicable</td></tr>
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