

**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		
			<p>Knowledge:</p> <ul style="list-style-type: none"> <li>- 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.</li> </ul> <p>Skills:</p> <ul style="list-style-type: none"> <li>- Student independently searches for, evaluates, and uses biological information from a range of sources, including electronic databases and online resources.</li> <li>- 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.</li> </ul> <p>Social competences (attitudes):</p> <ul style="list-style-type: none"> <li>- 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.</li> <li>- Student understands and applies principles of honesty, reliability, and research integrity in scientific and professional work.</li> </ul>		<p>[SW4] test/exam - oral or written</p> <p>[SW1] oral statement/conversation/discussion</p> <p>[SU4] test/exam - oral or written</p> <p>[SK4] test/exam - oral or written</p>		

Subject contents	<ul style="list-style-type: none"> <li>- Equipment and organization of an animal cell and tissue culture laboratory</li> <li>- Culture requirements: conditions, media, reagents, materials, and standard culture methods</li> <li>- Types of animal cell cultures in vitro</li> <li>- Primary cultures versus established cell lines</li> <li>- Three-dimensional culture systems and tissue cultures</li> <li>- Cell culture contamination: sources, prevention, detection, and troubleshooting</li> <li>- Applications of animal cell culture in research and biotechnology</li> <li>- Introduction to cell-based assays: principles, examples, and data interpretation</li> </ul>		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	test	51.0%	100.0%
Recommended reading	Basic literature	- Capes-Davis, A., Freshney, R.I., (2021) Freshneys Culture of Animal Cells: A Manual of Basic Technique and Specialized Applications, John Wiley & Sons Inc	
	Supplementary literature	- Segeritz, C. P., & Vallier, L. (2017). Cell Culture: Growing Cells as Model Systems In Vitro. Basic Science Methods for Clinical Researchers, 151172. <a href="https://doi.org/10.1016/B978-0-12-803077-6.00009-6">https://doi.org/10.1016/B978-0-12-803077-6.00009-6</a> - 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	
	eResources addresses		
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		

Document generated electronically. Does not require a seal or signature.