

Subject card

Subject name and code	Methods for the study of CNS, PG_00154585						
Field of study	Medical Biology						
Date of commencement of studies	October 2024		Academic year of realisation of subject		2026/2027		
Education level	undergraduate studies		Subject group				
Mode of study	full-time studies		Mode of delivery		at the university		
Year of study	3		Language of instruction		Polish		
Semester of study	5		ECTS credits		1.0		
Learning profile	academic		Assessment form				
Conducting unit	Katedra Fizjologii Zwierząt i Człowieka -> Faculty of Biology						
Name and surname of lecturer (lecturers)	Subject supervisor		dr Irena Majkutewicz				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	15.0	0.0	0.0	15
	E-learning hours included: 0.0						
	Additional information: Performing experiments						
	Designing experiment						
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		3.0		7.0	25
Subject objectives	Practical familiarization with the techniques used in the Department of Animal and Human Physiology of the University of Gdańsk. Acquiring the ability to select appropriate methods for the planned experience in the field of neurobiology.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[BIOLMEDL3_K09] is ready to work with honesty and integrity in his scientific and professional work	BM_K09 The student understands the need for honesty and reliability in scientific and professional work.	[SK8] observation of student's independent or team work
	[BIOLMEDL3_U07] is able to identify problems corresponding to the needs of an individual and a social group and to undertake basic diagnostic, preventive and educational activities appropriate to the profession of medical biologist	BM_U07 The student is able to identify research problems in the field of neurobiology and plan appropriate actions to solve them.	[SU5] implementation of a problem task
	[BIOLMEDL3_K04] is able to form opinions about individuals and social groups in a professional context	BM_K04 The student is able to formulate opinions on the selection of experimental methods and the correctness of hypotheses and conclusions in published works in the field of neurobiology.	[SK5] implementation of a problem task
	[BIOLMEDL3_U01] uses basic apparatus and research tools and, maintaining the correct sequence of operations, performs simple physical, biological or chemical observations and measurements in laboratory work in the biological or medical sciences	BM_U01 The student uses basic equipment and research tools and correctly applies selected techniques in a neurobiological laboratory.	[SU6] demonstration of practical skills
	[BIOLMEDL3_U06] reads with understanding scientific texts in Polish and simple texts in English in the field of medical biology; independently searches and uses available sources of information, including electronic sources	BM_U06 The student reads and understands scientific texts in Polish and simple texts in English in the field of neurobiology; independently searches for and uses available sources of information, including electronic sources, in order to select the appropriate method to verify a given research hypothesis.	[SU5] implementation of a problem task
Subject contents	Observation of stereotactic surgery, implantation of intracerebral electrodes and administration of pharmacological agents intracerebral or peripheral, electrical stimulation of brain structures or performance of behavioral tests. Performing psychometric tests. Histological procedures. Preparation of preparations stained with immunohistochemistry or the Nissl method. Light microscopy. Independent selection and description of experimental methods leading to empirical verification of research hypothesis on the basis of literature.		
Prerequisites and co-requisites	Fundamentals of Neuroanatomy, Neurophysiology		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	design of the experiment methodology	51.0%	60.0%
	assessment of the correctness of histological staining and stimulation electrodes	51.0%	40.0%
Recommended reading	Basic literature	J.A. Litwin, M. Gajda. Podstawy technik mikroskopowych. Jagiellonian University Press. Kraków.2011	
	Supplementary literature	J.A. Kiernan. Histological and Histochemical Methods: Theory and Practice. The University of Western Ontario. Kanada. 1992	
	eResources addresses	Podstawowe https://www.researchgate.net/publication/295547057_METODY_BEHAVIORALNE_W_NEUROBIOLOGII_SLUZ - Description of behavioural tests used to measure anxiety in rodents developed by a team from the Department of Animal and Human Physiology at the University of Gdańsk https://www.izibb.binoz.uj.edu.pl/documents/4416519/f0ea8373-dfce-4eb0-bc21-b1b2e1c0035c - Description of immunocytochemical and immunohistochemical methods developed by the Institute of Zoology and Biomedical Research of the Jagiellonian University. https://methods-x.com/article/S2215-0161(19)30180-3/fulltext - Description of the method of stereotactic implantation of cannula into the rodent brain http://histologia-old.sum.edu.pl/files/Histotechnika1.pdf - Description of histological technique: tissue collection, cutting, hydration, staining, dehydration, making of the specimen Adresy na platformie eNauczanie:	

Example issues/ example questions/ tasks being completed	
Work placement	Not applicable

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