University of Gdańsk

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 2026		Academic year of realisation of subject		2028/2029		
Education level	Bachelor's studies		Subject group		Obligatory subject group in the field of study Optional subject group 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	3		Language of instruction		Polish		
Semester of study	5		ECTS credits		1.0		
Learning profile	academic		Assessment form		credit		
Conducting unit	Department of Animal and Human Physiology -> Faculty of Biology -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. 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						
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_U05] 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
[BIOLMEDL3_U06] is able to identify problems corresponding to the needs of an individual and a social group and to undertake 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_K07] The student is able to apply the principles of bioethics in an informed manner and is prepared to carry out honest and reliable academic and professional work	The student conducting behavioral tests using lab animals consciously follows the principles of bioethics.	[SK8] observation of student's independent or team work
[BIOLMEDL3_U01] is able to use and operate basic research equipment and tools employed in molecular-biochemical analysis or neurobiology and, following the correct sequence of steps, carries out simple physical, biological or chemical observations and measurements in laboratory work in the field of 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_K03] is ready to form opinions about individuals, social groups, and the organization of individual and team work; independently undertakes and initiates simple research activities	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

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
assessment of the correctness of histological staining and stimulation electrodes	51.0%	40.0%
design of the experiment methodology	51.0%	60.0%

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	

Example issues/ example questions/ tasks being completed

Work placement

Not applicable

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