

Subject card

Subject name and code	Neurophysiology, PG_00048430						
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			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			2.0		
Learning profile	academic	Assessment form			credit		
Conducting unit	Laboratory of Neurobiology -> Department of Animal and Human Physiology -> Faculty of Biology -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr Beata Grembecka				
	Teachers		dr Beata Grembecka				
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	30.0	0.0	0.0	30
	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	30		0.0		0.0	30
Subject objectives	<p>Upon completion of the course, the student is able to:</p> <ol style="list-style-type: none"> Identify and explain the overarching role of the nervous system in the regulation and control of vital human functions. Perform measurements of selected nervous system functions (e.g. perimetry, colour vision discrimination, visual acuity, pure-tone and speech audiometry, measurement of the knee-jerk reflex latency, electroencephalography), and appropriately report and interpret the obtained results. 						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[BIOLL3_W04] the graduate knows and understands the course of physiological processes and their relation to adaptation of the organism to changing environmental conditions	The student describes the course of neurophysiological processes and their relationship to the organism's adaptation to changing environmental conditions	[SW4] test/exam - oral or written [SW3] text preparation/written work [SW5] implementation of a problem task
	[BIOLL3_W03] the graduate knows the structure and understands to an advanced degree the functional relationships at cellular, tissue, organ and organismal level	The student demonstrates knowledge of the structure of the nervous system and the functional relationships within this system at the cellular, tissue, and organ levels, and explains the overarching role of the nervous system in the human body.	[SW4] test/exam - oral or written [SW2] presentation/project/paper/report
	[BIOLL3_K07] the graduate is ready to consciously apply the principles of bioethics	The student has knowledge of the principles of bioethics applied in neurophysiological research involving laboratory animals.	[SK2] presentation/project/paper/report
	[BIOLL3_K01] the graduate is ready to evaluate his/her own knowledge and understands the need for continuous learning and development and is open to new ideas	The student is able to assess their level of knowledge and understanding of the performed neurophysiological measurements and understands the need for continuous professional development.	[SK2] presentation/project/paper/report [SK8] observation of student's independent or team work
	[BIOLL3_U12] the graduate is able to use Polish and foreign language specific to biology in a way that is understandable and accessible to both specialists and non-specialists	The student is able to prepare a written report based on applied measurement techniques or observations of nervous system function, as well as an oral presentation on selected diseases or disorders of the nervous system.	[SU1] oral statement/conversation/discussion [SU2] presentation/project/paper/report
	[BIOLL3_U08] the graduate is able to learn independently, in a focused manner	The student independently acquires information related to the structure and function of the nervous system to the extent necessary for the performance of practical tasks.	[SU3] text preparation/written work [SU4] test/exam - oral or written
	[BIOLL3_U03] the graduate is able to carry out simple tasks or research expertise typical of the biological sciences under the guidance of a supervisor	Under the supervision of an instructor, the student performs basic neurophysiological examinations, measurements, and observations, prepares reports, and analyses the collected data.	[SU2] presentation/project/paper/report [SU6] demonstration of practical skills
	[BIOLL3_W14] the graduate knows the theoretical basis of experimental methods and the most important techniques of the biological sciences	The student demonstrates knowledge of the theoretical foundations of the techniques and measurements used in practice to record neurophysiological processes.	[SW4] test/exam - oral or written
[BIOLL3_W10] the graduate is familiar with the development and current state of knowledge and the latest trends in biology, as well as their relationship with other natural disciplines	The student is familiar with the current state of knowledge and the latest trends in neurophysiology, and is able to indicate the relationships between neurophysiology and other natural sciences disciplines.	[SW1] oral statement/conversation/discussion [SW2] presentation/project/paper/report	
Subject contents	Recording or observing selected neurophysiological processes in humans. Examination of reflex functions, cranial nerves, sensory physiology, postural and autonomic nervous system responses. Assessment of cognitive and emotional functions. Recording of cortical activity. Observation of conditioned reflexes.		
Prerequisites and co-requisites	Basic knowledge of human physiology and anatomy. Completion (pass) of the practical classes is required prior to taking the final exam in the lecture course "Neurophysiology".		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	test on a thematic unit	51.0%	30.0%
	presentation	51.0%	10.0%
	raport	51.0%	40.0%
	a test preceding the practical part	51.0%	20.0%

Recommended reading	Basic literature	<p>Lewandowska D., Orzeł-Gryglewska J., Jurkowlaniec E. 2019. "Fizjologia zwierząt i człowieka". Wydawnictwo Uniwersytetu Gdańskiego.</p> <p>red. Brzozowski T. .2019. "Konturek - Fizjologia człowieka".Edra Urban & Partner</p> <p>Felten D.L. i wsp. 2003. "Atlas neuroanatomii i neurofizjologii Nettera". Elsevier Urban & Partner, Wrocław.</p> <p>Narkiewicz O., Moryś J.2013. "Neuroanatomia czynnościowa i kliniczna". Wydawnictwo Naukowe PZWL, Warszawa.</p> <p>Sadowski B. 2005. Biologiczne mechanizmy zachowania się ludzi i zwierząt. PWN, Warszawa.</p> <p>Longstaff A. 2002. Neurobiologia. Wydawnictwo Naukowe PWN, Warszawa</p>
	Supplementary literature	Konturek S. "Fizjologia człowieka Tom 4 Neurofizjologia". 2015. Wydawnictwo Uniwersytetu Jagiellońskiego. Kraków
	eResources addresses	
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	

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