University of Gdańsk

Subject card

Subject name and code	Principles of neuroanatomy, PG_00154574		
Field of study	Medical Biology		
Date of commencement of studies	October 2025	Academic year of realisation of subject	2026/2027
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	2	Language of instruction	Polish
Semester of study	3	ECTS credits	3.0
Learning profile	academic	Assessment form	credit
Conducting unit	Laboratory of Neurophysiology and Neurochemistry -> Department of Animal and Human Physiology -> Faculty of Biology -> Rector		
Name and surname of lecturer (lecturers)	Subject supervisor	dr Witold Żakowski	
	Teachers		

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	8.0	37.0	75

Subject objectives

1. Students will learn the detailed structure of the human nervous system.
2. Demonstrating the primary role of the nervous system in controlling human vital functions.
3. Acquiring the ability to independently deepen and transfer knowledge.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[BIOLMEDL3_W13] presents the basic methods of statistical analysis and understands their importance in the interpretation of biological phenomena and processes	Applies basic analytical methods to present literature-derived data on the structure and function of brain structures.	[SW2] presentation/project/paper/ report
[BIOLMEDL3_U05] synthesises data from different sources and draws appropriate conclusions from them	Synthesizes information from various sources to prepare presentations on neuroanatomy.	[SU2] presentation/project/paper/ report
[BIOLMEDL3_K01] understands the need for lifelong learning and to update his/her knowledge of medical biology and related disciplines	Understands the need to continuously update their knowledge of neuroanatomy and neurophysiology.	[SK1] oral statement/conversation/ discussion [SK8] observation of student's independent or team work
[BIOLMEDL3_W03] knows the structure of the animal or human organism, the processes and functional relationships at the cellular, tissue, organ and organismal levels, and explains their relationship to behavior and adaptation of the organism to changing environmental conditions	Knows the structure of the human nervous system.	[SW4] test/exam - oral or written
[BIOLMEDL3_W07] has advanced knowledge of medical biology and is familiar with the health sciences terminology	Has advanced knowledge of neuroanatomy and is familiar with Polish anatomical terminology related to the human nervous system.	[SW4] test/exam - oral or written
[BIOLMEDL3_U11] is able to use language specialized for medical biology in a way that is clear and accessible to both specialists and non-specialists alike	Uses correct anatomical terminology when presenting an assigned neuroanatomical topic to a group.	[SU2] presentation/project/paper/ report [SU8] observation of student's independent or team work

Subject contents

Basics of human ontogenetic development. Division of the nervous system into the central and peripheral parts. Levels of integration in the central nervous system. Functional localization in the cerebral cortex. Nerve pathways of selected systems: sensory and motor, visual, auditory and balance. The hypothalamus as an integrator of the functions of the somatic, hormonal, limbic and autonomic systems. Telencephalic nuclei. Reticular system. Features of cerebral circulation. Transmitter systems of the central and peripheral nervous system. Modern methods of imaging brain function. Reflex pathways of sense organs.

Prerequisites and co-requisites

Basic knowledge of human anatomy and physiology.

Introductory classes/lectures: Human functional anatomy.

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Test	51.0%	90.0%
Presentation	51.0%	10.0%

Recommended reading

Basic literature	1. Narkiewicz O., Moryś J., 2003. Neuroanatomia czynnościowa i kliniczna. PZWL, Warszawa. 2. Gołąb B., 2014. Anatomia czynnościowa ośrodkowego układu nerowowego. 3. Fix J., Neuroanatomia, Urban & Partner, Wrocław 1997. 4. Felten D. L., Shetty A. N., 2012. Atlas neuroanatomii i neurofizjologii Nettera. Elsevier Urban & Partner
Supplementary literature	1. Nolte J., 2011. Mózg człowieka. Anatomia czynnościowa mózgowia. Elsevier Urban & Partner 2. Lewandowska D., Orzeł-Gryglewska J., Jurkowlaniec E. [red], 2019. Fizjologia zwierząt i człowieka. Wydawnictwo UG, Gdańsk.
eResources addresses	

Example issues/ example questions/ tasks being completed

1. Macroscopic structure of the nervous system 2. Meninges, ventricles and cerebrospinal fluid 3. Vascularization of the central nervous system 4. Development of the nervous system 5. Neurohistology 6. Detailed neuroanatomy. 7. Sensory and motor systems 8. Neurotransmitter systems

Work placement

Not applicable

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