University of Gdańsk

Subject card

Subject name and code	Animal and human physiology, PG_00198319						
Field of study	Genetics and Experimental Biology						
Date of commencement of studies	October 2026		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			
Mode of study	full-time studies		Mode of delivery	at the university			
Year of study	1		Language of instruction	Polish			
Semester of study	2		ECTS credits	2.0			
Learning profile	academic		Assessment form	credit			
Conducting unit	Faculty of Biology -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Jolanta Orzeł-Gryglewska				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	0.0	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		4.0	16.0	50	
Subject objectives	Learning about basic life processes, in particular the mechanisms of their regulation and integration in animal and human organisms.						

Learning outcomes

Course outcome	Subject outcome	Method of verification
[GBEL3_U04] The graduate is able to: read scientific texts in English and Polish with comprehension, synthesise the knowledge they contain, prepare well-documented papers on biological problems and on the commercialisation of research.	The student is able to read and understand scientific texts in English and Polish, synthesizes the knowledge contained therein, prepares well-documented studies of physiological problems and problems related to the commercialization of research.	[SU4] test/exam - oral or written
[GBEL3_W03] A graduate has an advanced knowledge and understanding of: molecular mechanisms of genetic information transfer and gene expression and the molecular and genetic basis of human physiology and disease, including infectious diseases.	The student describes the physiological processes occurring in the animal and human body, taking into account the mechanisms of their regulation at the cellular, organ and organismal level, and demonstrates the relationship of these physiological processes with the adaptation of organisms to changing environmental conditions. Describes, explains and compares systemic control mechanisms in animals and humans as well as the physiological basis of their disorders. Knows the terminology of health sciences in the field of physiology and pathophysiology	[SW4] test/exam - oral or written
[GBEL3_W05] A graduate has an advanced knowledge and understanding of: principles for planning research based on the achievements of biological sciences and related disciplines and the possibility of putting their results into practice, principles for the operation of equipment and apparatus used in molecular genetics research, and the principle of interpreting biological phenomena and processes based on empirical data in research work and practical action, taking into account the sustainable use of biodiversity.	The student knows the principles of planning physiological research, the possibilities of using their results in practice, the principles of operation of equipment and apparatus used in research in the field of physiology, and the principle of interpreting biological phenomena and processes based on empirical data in research and practical activities, taking into account the sustainable use of biological diversity.	[SW4] test/exam - oral or written

Subject contents

Basics of physiology of the central nervous system - physiology of movement and sensation. Features of excitable tissue, physiology of striated and smooth muscles, types of contractions. Reflex as a basic functional unit of the central nervous system. Classification of reflex reactions and levels of integration (spinal, subcortical, cortical). Physiology of vegetative functions: regulation of blood circulation and heart function. Basics of the physiology of breathing and physical exercise. The structure and role of blood. Central adaptive and regulatory reactions (thermoregulation, regulation of food intake, sleep) and stress. Physiology of the digestive system, digestive processes. Body fluids and water and mineral management, homeostasis, excretion and kidney functions. Hormonal regulation of vegetative activities.

Prerequisites and co-requisites

It is necessary to pass exercises in this subject before passing the lectures.

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
passing test	51.0%	100.0%

Recommended reading

Basic literature

Lewandowska D., Orzeł-Gryglewska J., Jurkowlaniec E. 2019. Fizjologia zwierząt i człowieka. Wydawnictwo Uniwersytetu Gdańskiego

Ganong W. F., 2007. Fizjologia. Wydawnictwo Lekarskie PZWL, Warszawa

Konturek S. J. 2007. Fizjologia człowieka. Podręcznik dla studentów medycyny. Elsevier Urban & Partner, Wrocław

	Supplementary literature	Sadowski B. 2005. Biologiczne mechanizmy zachowania się ludzi i zwierząt. PWN, Warszawa. Brodal Per 2004. The central nervous system. Structure and function. Oxford University Press. Konturek S. J. Atlas fizjologii człowieka Nettera. 2005. Wydawnictwo Medyczne Urban & Partner, Wrocław Traczyk W., Trzebski A. 2015. Fizjologia człowieka z elementami fizjologii stosowanej i klinicznej. PZWL, Warszawa.
	eResources addresses	
Example issues/ example questions/ tasks being completed	Resting and action potential of a neuron.Types of muscle contractions.Features of reflex activity.The structure and role of blood.Cardiac cycle.	
Work placement	Not applicable	

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