University of Gdańsk

Subject card

Subject name and code	Animal and human physiology, PG_00146896		
Field of study	Genetics and Experimental Biology		
Date of commencement of studies	October 2025	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
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	
Conducting unit			
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	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	5.0	15.0	50

Subject objectives

1. Learning about basic life processes, in particular the mechanisms of their regulation and integration in animal and human organisms.

2. Practical acquaintance with basic physiological phenomena, methods of their research and demonstration, respecting the principles of bioethics.

3. Acquiring laboratory group work competences and the ability to independently deepen and transfer knowledge.

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[GBEL3_W03] The molecular mechanisms of genetic information transmission and gene expression, as well as the molecular and genetic basis of human physiology and diseases, 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	[SW3] text preparation/written work [SW5] implementation of a problem task
	[GBEL3_K08] Responsibility for entrusted equipment/materials and respect for the work of others.	the student feels responsible for the equipment/materials entrusted to him for physiology exercises and respects the work of other people	[SK8] observation of student's independent or team work
	[GBEL3_U04] Capable of reading scientific texts in English and Polish with comprehension, synthesizing the knowledge contained within them, preparing well-documented studies on biological issues, as well as those related to research commercialization.	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	[SU1] oral statement/conversation/ discussion [SU2] presentation/project/paper/ report [SU3] text preparation/written work
	[GBEL3_K05] Responsibility for the safety of one's own work and others.	The student feels responsible for the safety of his own work and that of other people in the physiology laboratory.	[SK8] observation of student's independent or team work
	[GBEL3_U07] Work in a team and organize work while adhering to occupational health and safety principles and ergonomics.	A student in the physiology laboratory is able to work in a team and organize work while maintaining the principles of occupational health and safety and work ergonomics	[SU8] observation of student's independent or team work
	[GBEL3_W05] the principles of research planning based on achievements in biological sciences and related fields, the potential application of their results in practice, the principles of 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 and practical activities, with consideration for sustainable use of biological diversity.	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, taking into account the sustainable use of biological diversity.	[SW1] oral statement/ conversation/discussion [SW2] presentation/project/paper/ report
	[GBEL3_U03] Proficient in using research equipment and tools, while following the correct sequence of procedures, to conduct basic physical, biological, or chemical observations and measurements in laboratory work within the field of biological sciences.	The student is able to use research equipment and tools and, maintaining the correct sequence of activities, performs simple observations and measurements in the physiology laboratory.	[SU8] observation of student's independent or team work
Subject contents	Learning methods for recording and visualizing physiological processes in animals and humans. Observation of muscle spasms, symptoms of muscle fatigue. Basics of electrophysiology. Features of reflex activity. Brain stem functions and symptoms of its damage. ECG and blood pressure recording. Exercise tests in humans. Red- and white-cell system, determination of blood groups. Hemostasis and blood coagulation mechanisms. Familiarization with the methodology of selected clinical tests and medical laboratory techniques.		
Prerequisites and co-requisites	It is necessary to pass exercises in this subject before taking the exam.		

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	tests/colloquia	51.0%	55.0%
	"entrance" tests	51.0%	20.0%
	reports	51.0%	15.0%
	presentations/essays	51.0%	10.0%
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	neuron action potential blood pressure measurement ECG examination Blood count analysis. Determining blood groups.		
Work placement	Not applicable		

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