

1.	Field of study	Biotechnology
2.	Faculty	Faculty of Natural Sciences
3.	Academic year of entry	2021/2022 (winter term), 2022/2023 (winter term)
4.	Level of qualifications/degree	first-cycle studies
5.	Degree profile	general academic
6.	Mode of study	full-time

Module: Principles of animal physiology

Module code: 1BT_21A

1. Number of the ECTS credits: 4

2. Learning outcomes of the module			
code	description	learning outcomes of the programme	level of competence (scale 1-5)
1BT_21_01	Has knowledge of the basics of animal physiology, i.e. is able to classify and describe - using the correct terminology - phenomena occurring in the animal and human body, their interrelationship and significance for adaptation	1BT_W01_P 1BT_W03_P	5 5
1BT_21_02	Is able to use his knowledge and skills in the field of chemistry, biochemistry, biophysics, genetics, molecular biology and anatomy for the correct interpretation of physiological phenomena and their molecular basis	1BT_W02_P	4
1BT_21_03	Is able to acquire and interpret data from the measurements, taking into account the limitations resulting from the test object and instrument characteristics as well as mathematical and statistical processing of results.	1BT_U01_P	3
1BT_21_04	Is able to prepare a report of physiological observations and measurements, using basic calculation methods.	1BT_U02_P	3
1BT_21_05	Actively uses the "virtual laboratory" for preparation for classes, self-study and improvement of the use of physiological terminology in English	1BT_U05_P	3
1BT_21_06	Uses - critically - sources of information about the physiology of the organism, including internet data. He can assess credibility of the information based on its source and uses the abovementioned information in the process of self-education	1BT_K01_P	4
1BT_21_07	Can solve a research problem, either theoretical or practical, independently and or in a team, and report the solution in an oral or written report	1BT_U04_P	5

3. Module description

Description	The aim of the course is to acquire, by the student, knowledge of the body's functions as well as practical skills to measure selected parameters of body functioning and to correctly interpret the values measured during the practical classes and those that are available in various sources. LECTURES include a review of body functions with particular emphasis on those that form the basis of further education in biotechnology (reproductive physiology, nutrition physiology) and those that show the integration of functions at the organism level (physiology of the nervous system, physiology of hormonal regulation, physiology of physical effort and physiology of homeostasis). LABORATORY CLASSES teach students how to make physiological
--------------------	---

	<p>observations and conduct measurements as well as perform necessary calculations and draw up reports. An important element of the practical classes is the use of virtual laboratories, films and animations, allowing to explain the issues that are not available for direct observation. As part of the laboratory classes, the student also acquires the ability to independently solve research problems, based on acquired knowledge and available sources, under the guidance of the tutor, and learns how to prepare and present a report (orally or in writing) on the completed project. OWN WORK - with a handbook and online data sources, along with recommended explorers' websites - is useful to prepare for laboratory classes, ongoing tests and final exam, as well as to compile data collected during measurements and preparation of reports.</p>
Prerequisites	<p>Knowledge and skills in exact and natural sciences, especially in cell biology and elements of zoology, enabling understanding of physiological descriptions as well as interpretation of physiological data.</p>

4. Assessment of the learning outcomes of the module

code	type	description	learning outcomes of the module
1BT_21_w01	Coursework	according to the Syllabus	1BT_21_01, 1BT_21_02, 1BT_21_03, 1BT_21_04, 1BT_21_05, 1BT_21_06, 1BT_21_07

5. Forms of teaching

code	form of teaching			required hours of student's own work		assessment of the learning outcomes of the module
	type	description (including teaching methods)	number of hours	description	number of hours	
1BT_21_fs01	lecture	Lecture on animal physiology, using audiovisual media, including, where appropriate, movies, virtual interactive models of phenomena, and laboratory documentation	15	Preparation for tests and final exam, including self-mastery of material modules, indicated by the teacher, which were omitted in lectures.	20	1BT_21_w01
1BT_21_fs02	laboratory classes	Laboratory classes during which students make notes on the demonstrations, charts, diagrams, films and models of physiological phenomena presented by the teacher, participate - as an object and observer - in exercises aimed at measuring basic physiological parameters, report and discuss the conclusions resulting from the measurements and observations. Independently or in team work search for solution to the research problem posed by the teacher. Possibility of consultations: Discussion of reports and results of experiments from "virtual laboratories", analyzing and finding solutions to emerging problems; indication of literature and internet sources	30	Preparation for laboratory exercises using recommended literature and Internet sources, independent implementation of computer modules of the virtual laboratory and preparation of the appropriate protocol to be presented to the lecturer, completing reports initiated during the classes.	35	1BT_21_w01