1.	**Field of study**	**Biotechnology**
2.	Faculty	Faculty of Natural Sciences
3.	Academic year of entry	2019/2020 (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_21

1. Number of the ECTS credits: 5

2. Learning outcomes of the module

code	description	learning outcomes of the programme	level of competence (scale 1-5)
1BT_21_01	Students have knowledge of the principles of animal physiology, so they can classify and describe - using the correct terminology - phenomena that occur in the animal and human body, their mutual interactions and adaptive significance.	1BT_W01_P 1BT_W03_P	5 5
1BT_21_02	Students are able to use their knowledge and skills in 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	Students know how to obtain and interpret measurement data, taking into account the constraints imposed by the object of research, instrument and mathematical & statistical treatment of results.	1BT_U01_P	3
1BT_21_04	Students can draw, using basic methods of computation, protocol of physiological observations and measurements.	1BT_U02_P	3
1BT_21_05	Students actively use the "virtual laboratory" for preparation for classes, self-study and improvement of knowledge of the physiological terminology in English.	1BT_U05_P	3
1BT_21_06	Students use - critically - the source of information on the physiology of the body, including Internet data. They are able to estimate the reliability of information regarding its source and use the above information in the process of self-education	1BT_K01_P	4

3. Module description

Description	The course PURPOSE is to give the student knowledge of the functions of the body and practical skills to measure some selected parameters of its functioning as well as the correct interpretation of the measured values during the labs and those available in various sources. LECTURES include a review of the body functions, with particular attention to those that form the basis of further education programs for biotechnologist (physiology of reproduction and physiology of nutrition) and those that show the integration of functions at the different levels (physiology of the nervous system, hormonal regulation, immune system physiology and homeostasis) . LABORATORY teach students to make observations and physiological measurements and perform the necessary calculations and preparation protocols. An important part of training is the use of virtual labs, videos and animations, allowing zoom issues unavailable for the direct observation. SELF WORK – with recommended manuals and online data sources, including

	virtual labs - is used to proper preparing for the laboratory classes, ongoing tests & final examination and developing data collected during the measurements as well as for drawing up protocols.
Prerequisites	Knowledge and skills in science and nature, particularly of cell biology and zoology elements, in order to understand the physiological description, inference and interpretation of physiological data

4. Assessment of the learning outcomes of the module

code	type	description	learning outcomes of the module
1BT_21_w01	Final examination (credit)	A comprehensive test of knowledge (and partly skills) within the scope defined by the lecturer and based on the recommended textbooks.	1BT_21_01, 1BT_21_02, 1BT_21_06
1BT_21_w02	Test	The written test for checking the level of understanding, knowledge and skills acquired during classes.	1BT_21_01, 1BT_21_02, 1BT_21_05, 1BT_21_06
1BT_21_w03	Continuous assessment of practical skills	The current assessment of exercise performing, the reliability of the measurements, records and reports, including verification of the obtained values, the correctness of the calculations description and interpretation, as well as keeping the schedule. In the case of a "virtual laboratory" adequate documentation of any experiment (print screens & built-in reporting tools).	1BT_21_03, 1BT_21_04, 1BT_21_05, 1BT_21_06

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 audio-visual methods, including - where it is warranted - videos, virtual, interactive models of phenomena and laboratory documentation .	15	Preparing for colloquia and final credit, including the self-learning of the modules, omitted in the lectures and indicated by the teacher.	10	1BT_21_w01, 1BT_21_w02
1BT_21_fs02	laboratory classes	Laboratory exercises, during which the student performs observations of demonstrations presented by the teacher, charts, diagrams, videos and models of physiological phenomena; students are involved – both as an object and observer - in exercises designed to measure basic physiological parameters, refer and discuss the measurements and observation conclusions. Consultation: The discussion on the reports and the results of experiments from "virtual laboratories", their analysis and finding solutions to emerging problems; indication of the literature and Internet sources.	30	Preparation for laboratory exercises using the recommended literature and Internet sources, self-performing the exercises from the virtual laboratory and drawing up an appropriate protocol to show the teacher, completing reports initiated during the exercise.	70	1BT_21_w02, 1BT_21_w03