

Course name: BIOLOGY

ECTS	2
Course status	obligatory
Course final assessment/evaluation of outcomes	exam
Prerequisites	no

Main field of study: agricultural sciences-veterinary and others related
field of study name (capital letters)

Profile of study	General-academic
The code of studies (education level)	SI/SM (bachelor/master)
Semester of studies	winter
Language of instruction	English

Course offered by: veterinary and others related

Name of faculty offering the course	Faculty of Veterinary Medicine
Name of department offering the course	Faculty of Veterinary Medicine
Course coordinator	dr hab. Małgorzata Kotula-Balak, prof. URK

Learning outcomes of the course:

Symbol of outcome	Description of learning outcome	Reference to	
		main field of study outcomes	discipline#
KNOWLEDGE – student knows and/or understands:			
BIO_W1	knows and understands the rules of classification of organisms and phylogenetic analysis, understands basic biological rules, has a general knowledge of the functioning of organisms	A.W1	RW
BIO_W2	describes the relationship between the structure and function of organs, interprets the changes taking place in aging organisms, knows the types of cell death and the features of a neoplastic cell	A.W2	RW
BIO_W3	knows the pathways of signal transmission between cells, understands the action of protein and steroid hormones and the structure of receptors	A.W2	RW
BIO_W4	knows and understands issues related to the influence of environmental factors on animal body systems	A.W4	RW
BIO_W4	knows and understands the importance of effect of photoperiod (photosensitive animals) and temperature conditions (warm-blooded animals) in terms of adaptation of animals to living in environment knows and describes the biotic and abiotic factors regulating the development and structure of animals and defines the concepts of: taming and domestication,	A.W4	RW
BIO_W5	knows and describes the biotic and abiotic factors regulating the development and structure of animals and defines the concepts of: domestication, breeding, breeding and features of the breeding environment	A.W5	RW
BIO_W6	body homeostasis aging of the body features of an aging cell	A.W9	RW

BIO_W7	describes and explains the healing properties of biologically active substances, knows the general characteristics of medicinal plants and their application	A.W5	RW
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SKILLS – student is able to:

BIO_U1	has the ability to find, understand and analyze information from various sources	A.U8	RW
BIO_U2	is able to use the acquired knowledge in the field of basic sciences in the course of further education	A.U19	RW
BIO_U3	has the ability to work in a team	A.U15	RW
BIO_U4	is able to communicate precisely with various subjects in verbal, written and graphic form	A.U4	RW
BIO_U5	understands the need for continuous learning and expanding knowledge	A.U21	RW
BIO_U6	is ready for training and self-improvement	A.U19	RW
BIO_U7	is aware of the effects of the decisions made that interfere with the environment	A.U16	RW

SOCIAL COMPETENCE- student is ready to:

BIO_K1	expressing conclusions from own measurements or observations;	OK_5	RW
BIO_K2	deepening knowledge and improving skills;	OK_8	RW
BIO_3	cooperation with representatives of other professions in the field of public health protection;	OK_11	RW

Teaching contents:

Lectures		10	hours
Topics of the lectures	<p>Basic principles for classification of organisms, phylogenetic analysis and some evolutionary processes (e.g. convergent evolution) and basic biological rules</p> <p>Intercellular communication (signal transmission pathways, receptor structure and function, the mechanism of action of protein and steroid hormones and other molecules</p> <p>Body homeostasis. Aging of the body. Features of an aging cell. Types of cell death. The specificity of a cancer cell.</p> <p>The influence of the breeding environment. Features of the taming and domestication of animals (morphological, physiological and behavioral features).</p> <p>Characteristics of medicinal plants and their application.</p>		
Accomplished learning outcomes	<i>symbols of learning outcomes for lectures: BIO_W1, BIO_W2, BIO_W3, BIO_W4, BIO_W5,</i>		

Verification methods, rules and criteria of outcome assessment	<p>together with participation in the final assessment (in %) The criterion for admitting the exam is to obtain a credit from classes (open questions).</p> <p>Written exam in the form of a single-choice test. The exam consists of 30 questions, the maximum number of points to be obtained is 30. In order for the exam to be passed and the learning outcomes as achieved, at least 50% of correct answers are required.</p> <p>Final criteria:</p> <p>The final grade for the subject is the grade from the final written test (material from lectures - weight in the final grade 50%, material from the classes - weight in the final grade 50%). A positive rating is obtained with 50% positive responses.</p> <p>Assessment criteria used:</p> <p>0-15 points: insufficient 16-18 points: satisfactory 19-21 points: a sufficient plus 22-24 points: good 25-27 points: a good plus 28-30 points: very good</p>
Classes	18 hours
Topics of the classes	<p>Biotic and abiotic factors regulating the development and organ structure of animals, part 1. The importance of light conditions (photosensitive animals) and temperature conditions (cold-blooded and warm-blooded animals) -adaptation of animals to various environmental and physio/pathological conditions.</p> <p>Biotic and abiotic factors regulating the development and structure of animals, part 2. The influence of chemicals in the environment on the development and functions of animal body systems.</p> <p>Microscopic analysis of the relationship between the structure and function of organs at the tissue level.</p> <p>Microscopic analysis of the relationship between the structure and function of organs at the cell level.</p> <p>Basics of tissue and cell culture in vitro.</p> <p>Biological tests - hormone concentration measurements.</p>
Accomplished learning outcomes	symbols of learning outcomes for classes: BIO_W1, BIO_W2, BIO_W3, BIO_W4,
Verification methods, rules and criteria of outcome assessment	<p>together with participation in the final assessment (in %) The criterion for admitting the exam is to obtain a credit from classes (open questions).</p> <p>Written exam in the form of a single-choice test. The exam consists of 30 questions, the maximum number of points to be obtained is 30. In order for the exam to be passed and the learning outcomes as achieved, at least 50% of correct answers are required.</p>
Seminars	2 hours
Topics of the seminars	Individual preparation of a multimedia presentation related to the selected topic of the class module.
Accomplished learning outcomes	symbol of learning outcomes of the seminars BIO_W1, BIO_W2, BIO_W3, BIO_W4, BIO_W
Verification methods, rules and criteria of outcome assessment	<p>together with participation in the final assessment (in %) The criterion for admitting the exam is to obtain a credit from classes (open questions).</p> <p>Written exam in the form of a single-choice test. The exam consists of 30 questions, the maximum number of points to be obtained is 30. In order for the exam to be passed and the learning outcomes as achieved, at least 50% of correct answers are required.</p>
References:	
Basic	Biologia Campbell, Reece JB, Campbell NA, Urry LA, Cain ML, Wasserman SA, Minorsky PV, Jackson RB. Rebis, Poznań 2016
Supplementary	English-language scientific journals (Elsevier, Springer, Wiley) available on-line

Structure of learning outcomes:

Discipline: # (provide appropriate symbol)	2.0	ECTS**
Discipline: # (provide appropriate symbol - if the course relates to more than one academic discipline)	...	ECTS**

Structure of student activities:

Contact hours	32	1, 3	ECTS**
including:			
lectures	10		
classes and seminars	20		
consultations	0		
participation in research	0		
mandatory traineeships	0		
participation in examinations	2		
e-learning	0	...	ECTS**
student own work	18	0.7	ECTS**

* where 10 hours of classes = 1 ECTS (in case of 15 h → 2 ECTS)

** stated with an accuracy to 0.1 ECTS, where 1 ECTS = 25 - 30 hours of classes

academic discipline code: RZ - animal science and fishery, PB - biological sciences, etc.