



KAPITAŁ LUDZKI
NARODOWA STRATEGIA SPÓJNOŚCI

Projekt współfinansowany przez
Unię Europejską w ramach
Europejskiego Funduszu
Społecznego

UNIA EUROPEJSKA
EUROPEJSKI
FUNDUSZ SPOŁECZNY



Course title		ECTS code	
Functional anatomy of the vertebrates		13.1.1454	
Name of unit administrating study			
null			
Studies			
faculty	field of study	type	first tier studies (BA)
Faculty of Biology	Medical Biology	form	full-time
		specialty	all
		specialization	all
Faculty of Biology	Biology	type	first tier studies (BA)
		form	full-time
		specialty	all
Faculty of Biology	Genetics and Experimental Biology	specialization	all
		type	first tier studies (BA)
		form	full-time
Faculty of Biology	Genetics and Experimental Biology	specialty	all
		specialization	all
		type	first tier studies (BA)
Faculty of Biology	Natural Resources Conservation	form	full-time
		specialty	all
		specialization	all
Teaching staff			
dr hab. Magdalena Remisiewicz; dr hab. Wojciech Pokora, profesor uczelni			
Forms of classes, the realization and number of hours		ECTS credits	
Forms of classes		2	
Lecture		Work in contact with the teacher:	
The realization of activities		participation in lectures - 15 hours	
classroom instruction, online classes		consultations with the lecturer - 9 hours	
Number of hours		exam - 2 hours	
Lecture: 15 hours		The individual student work:	
		preparation for the exam - 20 hours	
		studying the literature and materials for classes - 4 hours	
The academic cycle			
2022/2023 summer semester			
Type of course		Language of instruction	
an elective course		polish	
Teaching methods		Form and method of assessment and basic criteria for evaluation or examination requirements	
- Written assignment with test and open questions - multimedia-based lecture		Final evaluation	
		Graded credit	
		Assessment methods	
		Written assignment with test and open questions	
		The basic criteria for evaluation	

The condition of a student being allowed to take exam is participation in all lectures. Allowed absence is 5 hours of lecture (225 min) in case of justified emergencies, e.g. sickness, hospitalisation, family problems, justified by relevant documents presented to the lecturer. The student can compensate for the absence by reading materials indicated by the lecturer or watching a recording from a lecture, if available, Completing the course is based on written assignment during the last lecture, marked according to the percent scale (according to „Rules of studying at UG”) with test questions, open questions and sketches to label. The assignment covers the material from lectures. In case of not passing the assignment at the first date, the student can write the assignment of the same kind as the first one more time at the date agreed with the lecturer.

Method of verifying required learning outcomes

Assumed effect of teaching	Method of verification
	Knowledge
O_W01	Written credit with test and open questions.
O_W04	Written credit with test and open questions.
	Skills
O_U03	Written credit with test and open questions.
O_U12	Written credit with test and open questions.
	Social competences
O_K08	Written credit with test and open questions.

Required courses and introductory requirements

A. Formal requirements

Completed basic course in Zoology of Vertebrates.

B. Prerequisites

None

Aims of education

Understanding of the relationship between the structure and the function of systems and organs in vertebrates in the context of their adaptations to environment.

Course contents

Anatomic adaptations of locomotory apparatus in vertebrates to their environment and life mode. Homology of anatomical elements of motoric apparatus and adaptation of their structure to the function in each. The functional anatomy of support and locomotion: the integument, the axial skeleton, the appendicular skeleton. Homology of anatomical elements of the locomotory apparatus and relation between their structure and function in each division of vertebrates. Oral apparatus and digestive system in vertebrates and their functional adaptation to their feeding habits. Relationship between function and anatomy of the respiratory system with the environment and mode of life in vertebrates, Structure and functional adaptations of the excretory and circulatory systems to the environment and mode of life in vertebrates of different divisions.

Bibliography of literature

A. Literature required to complete the course:

A.1. Used during lectures:

Liem K. Bemis W, Walker W. F. Grande L. 2001. Functional Anatomy of the Vertebrates: An Evolutionary Perspective. Thomson Brooks/Cole.

Kardong K. V. Vertebrates; comparative anatomy, function, evolution. 2005. McGraw-Hill Science/Engineering/Math

Nowakowski J.K., Szulc J., Remisiewicz M. 2014. The further the flight, the longer the wing: relationship between wing length and migratory distance in Old World reed and bush Warblers (Acrocephalidae and Locustellidae). *Ornis Fennica* 91: 178-186.

A.2. Read by the student:

Liem K. Bemis W, Walker W. F. Grande L. 2001. Functional Anatomy of the Vertebrates: An Evolutionary Perspective. Thomson Brooks/Cole.

Kardong K. V. Vertebrates; comparative anatomy, function, evolution. 2005. McGraw-Hill Science/Engineering/Math

Nowakowski J.K., Szulc J., Remisiewicz M. 2014. The further the flight, the longer the wing: relationship between wing length and migratory distance in Old World reed and bush Warblers (Acrocephalidae and Locustellidae). *Ornis Fennica* 91: 178-186.

B. Additional literature:

Singh B. 2016. Veterinary Anatomy Coloring Book, 2nd Edition. Saunders.

Kapit W., Elson L. M. Anatomy Coloring Book. William Morrow and Company.

Rambaumniel. 2020. Veterinary Anatomy Coloring Book: Veterinary Physiology Animals Workbook and Coloring. Rambaumniel Publication.

The learning outcomes (for the field of study and specialization)

Knowledge

	<ul style="list-style-type: none"> - describes the structure and functional relationships at the cellular, tissue, organ and organic levels, - presents characteristics, systematics and evolution of the Vertebrates, and describes basic concepts and mechanisms of evolution
	<p>Skills</p> <ul style="list-style-type: none"> - independently searches for and uses available sources of biological information, including electronic resources, and critically analyse them - learns independently, in a targeted manner
	<p>Social competence</p> <ul style="list-style-type: none"> - systematically updates knowledge in the field of evolution and anatomy of the Vertebrates and knows its practical application
<p>Contact</p> <p>magdalena.remisiewicz@ug.edu.pl</p>	