

Course: Zoology

UNIVERSITY OF ZAGREB
FACULTY OF VETERINARY MEDICINE

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Basic, natural and preclinical science division AND PRE-CLINICAL SCIENCES DIVISION

Department of veterinary biology

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Register No of the organisational unit: 61-02-200/25

Zagreb, 3/9/2025

		
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Veterinarski fakultet u Zagrebu		
Primljeno:	03.09.2025	
Klasifikacijska oznaka	Org. jed.	
602-04/25-22/34	251-61-41/251-61-32	
Urudžbeni broj	Prilozi	Vrijednost
251-61-02-25-25	0	-

COURSE SYLLABUS

Zoology
Academic year 2025/2026

Course leader: Associate professor Daniel Špoljarić, DVM, PhD

Deputy course leader: Full professor Josip Kusak, DVM, PhD

Teachers:

Full Professor Josip Kusak, DVM, PhD

Full Professor Tomislav Gomerčić, DVM, PhD

Associate Professor Daniel Špoljarić, DVM, PhD

Full Professor Ksenija Vlahović, DVM, PhD

Full Professor Maja Popović, DVM, PhD

Ira Topličanec, DVM, PhD

First day of classes: 14/10/2025

Last day of classes: 23/1/2026

Activities - Zoology (1/4)

Start Dat	Start	End	Subject	Subject	Group	Note	Length	Instructor	Room
14/10/2025	11:45	13:15	Zoology	t01 field - Maksimir	1E-1, 1E-2		1:30	Nastavnici na predmetu	
24/10/2025	8:15	9:45	Zoology	p01 Introduction	1E-1, 1E-2		1:30	Špoljarić D.	P_fizika
28/10/2025	11:30	13:00	Zoology	p02 Evolution	1E-1, 1E-2		1:30	Gomerčić T.	P_fizika
29/10/2025	8:15	9:45	Zoology	p03 Cell structure	1E-1, 1E-2		1:30	Špoljarić D.	P_fizika
03/11/2025	13:30	15:00	Zoology	p04 Invertebrata	1E-1, 1E-2		1:30	Kusak J.	P_fizika
04/11/2025	8:00	9:30	Zoology	s01 Introduction, nontliving and living nature	1E-1, 1E-2		1:30	Gomerčić T.	P_fizika
06/11/2025	8:15	9:45	Zoology	p05 Cordata - fish, amphibians	1E-1, 1E-2		1:30	Kusak J.	P_fizika
06/11/2025	15:00	16:30	Zoology	s02 Abiotic factors	1E-1, 1E-2		1:30	Gomerčić T.	P_fizika
07/11/2025	10:00	18:00	Zoology	t02 field - Risnjak	1E-1, 1E-2		8:00	Nastavnici na predmetu	a1_autobus 1
11/11/2025	8:15	9:45	Zoology	s03 Biotic factors	1E-1, 1E-2		1:30	Gomerčić T.	P_fizika
12/11/2025	8:15	9:45	Zoology	s04 Interactions, successions, biomes	1E-1, 1E-2		1:30	Gomerčić T.	P_fizika

Activities - Zoology (2/4)									
Start Dat	Start	End	Subject	Subject	Group	Note	Length	Instructor	Room
13/11/2025	8:15	9:45	Zoology	s05 Influences of humans, research	1E-1, 1E-2		1:30	Gomerčić T.	P_fizika
20/11/2025	8:15	9:45	Zoology	s06 Mitosis, meiosis	1E-1, 1E-2		1:30	Kusak J.	P_farmakologija
21/11/2025	10:00	11:30	Zoology	s07 Gametes	1E-1, 1E-2		1:30	Popović Nikolić Džolan M.	P_fizika
24/11/2025	8:15	9:45	Zoology	s08 Development of sea urchins, lancelets, frog	1E-1, 1E-2		1:30	Kusak J.	P_fizika
24/11/2025	13:30	15:00	Zoology	p06 Reptiles, birds	1E-1, 1E-2		1:30	Kusak J.	P_fizika
25/11/2025	8:15	10:30	Zoology	p07 Mammalas	1E-1, 1E-2		2:15	Gomerčić T.	P_fizika
25/11/2025	11:00	12:30	Zoology	s09 Development of birds, reptiles	1E-1, 1E-2		1:30	Kusak J.	P_fizika
26/11/2025	10:15	11:45	Zoology	s10 Development of mammals, insects	1E-1, 1E-2		1:30	Kusak J.	P_fizika
27/11/2025	10:00	11:30	Zoology	v01 Protozoa	1E-1, 1E-2		1:30	Nastavnici na predmetu	V_histologija
28/11/2025	11:45	13:15	Zoology	v02 Eucaryotic cells	1E-1, 1E-2		1:30	Nastavnici na predmetu	V_histologija
02/12/2025	8:15	9:45	Zoology	v03 Platyhelminthes	1E-1, 1E-2		1:30	Nastavnici na predmetu	V_histologija

Activities - Zoology (3/4)									
Start Dat	Start	End	Subject	Subject	Group	Note	Length	Instructor	Room
04/12/2025	10:00	11:30	Zoology	v04 Nematelminthes	1E-1, 1E-2		1:30	Nastavnici na predmetu	V_histologija
05/12/2025	8:45	10:45	Zoology	t03 field - ZOO	1E-1, 1E-2		2:00	Nastavnici na predmetu	
08/12/2025	8:15	9:45	Zoology	v05 Annelida, coelom	1E-1, 1E-2		1:30	Nastavnici na predmetu	V_histologija
10/12/2025	8:15	9:45	Zoology	v06 Arthropoda	1E-1, 1E-2		1:30	Nastavnici na predmetu	V_histologija
12/12/2025	8:15	9:45	Zoology	v07 Fishs	1E-1, 1E-2		1:30	Nastavnici na predmetu	V_histologija
16/12/2025	8:15	9:45	Zoology	v08 Mammals	1E-1, 1E-2		1:30	Nastavnici na predmetu	V_histologija
18/12/2025	13:45	15:15	Zoology	v09 Mitosis	1E-1, 1E-2		1:30	Nastavnici na predmetu	V_histologija
09/01/2026	15:15	16:45	Zoology	v10 Meiosis	1E-1, 1E-2		1:30	Nastavnici na predmetu	V_histologija
13/01/2026	8:15	9:45	Zoology	v11 Types of eggs, development of sea urchins	1E-1, 1E-2		1:30	Nastavnici na predmetu	V_histologija
15/01/2026	8:15	9:45	Zoology	v12 Development of lancelet	1E-1, 1E-2		1:30	Nastavnici na predmetu	V_histologija
16/01/2026	11:45	13:15	Zoology	v13 Development of amphybians	1E-1, 1E-2		1:30	Nastavnici na predmetu	V_histologija

Activities - Zoology (4/4)									
Start Dat	Start	End	Subject	Subject	Group	Note	Length	Instructor	Room
20/01/2026	11:45	13:15	Zoology	v14 Development of birds and reptiles	1E-1, 1E-2		1:30	Nastavnici na predmetu	V_histologija
22/01/2026	13:30	15:00	Zoology	v15 Development of mammals, embryonic envelopes	1E-1, 1E-2		1:30	Nastavnici na predmetu	V_histologija
Total: 35							60:15		

STUDENT OBLIGATIONS

Lecture attendance	For attendance at maximum of 15 hours of lectures student can collect 3 to 6 points, where each hour of lecture class has a value of 0.4 points.
Seminars attendance	For attendance at maximum of 20 hours of seminars, student can collect 3 (threshold) to 6 points, where each hour of a seminar class has a value of 0.3 points
Practicals attendance	For attendance at maximum of 40 hours of practical classes, student can collect 4 (threshold) to 6 points, where each hour of practical class has a value of 0.15 points.
Active participation in seminars and practicals	During seminars and practical classes, students will be questioned at least 6 times. Every correct answer brings 1.67 points, in the case if he/she has been questioned for six times. A student can collect between 5 (threshold) to 10 points
Final exam	Final Exam – Written A 50-question test, with 15 to 25 points, and each question is 0.5 units (Bologna points). A positive mark of the written exam (60% correct answers) is a precondition for taking the oral part of the exam. A drop in the oral part of the exam requires a re-entry to the written part, unless the points scored are at least 75%, ie 38 correctly answered questions. Final Exam - Oral: Three questions for 9 to 15 points. Each question values 5 units or Bologna points.
Examination requirements	Student requirements are defined in the Regulations on the Integrated Undergraduate and Graduate Study of Veterinary Medicine (2024). Given the above, the student must acquire a minimum number of points from all assessment elements in order to take the final exam. Regulations On Intergraduate And Graduate Studies, Article 41: a student can justifiably be absent from up to 50% of the lectures; 30% of the seminars and 30% of the exercises.

GRADING AND EVALUATING STUDENT WORK

Continuous knowledge-checking (mid-terms)	Twelve mini-tests (written) with 10 questions each on the beginning of almost every practical class. If a student was not present, he/she could not collect 120 units (points). For students who missed some mini-exams, the basis for point's calculation could be 110, 100 or less. The value of each question is recalculated based on the total number of questions answered. A student can collect a total of 32 points, where a unit value of each correct answer is 0.267 (in the case of 120 questions answered), while the threshold is 20 points. The table below shows correct answers (real points) recalculated to Bologna
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	points. Students who do not collect the minimal number of points, will have the opportunity to do this on three other occasions. Terms for correctional mini-tests will be announced on the subject LMS. The threshold is 60% of correct answers, or in the case of 50 questions, the threshold is 62.5% or 31.25 of real points.
Final exams (dates)	4/11/2025 5/12/2025 12/2/2026 20/2/2026
Form of final exam	Written and oral examination. Student qualifies for oral exam by first passing the written part of the exam.

LITERATURE

Obligatory literature	1. All lectures and seminars in the Power Point format, available on VEF LMS. 2. Đuro Huber, Tomislav Gomerčić, Josip Kusak: Fundamentals of ecology – University study book for students of veterinary medicine. Veterinary faculty Zagreb 2015. 3. Guidelines for practical classes for the subject ZOOLOGY
Optional literature	1. John H. Postlethwait, Janet L. Hopson 1989. THE NATURE OF LIFE 2. Odum, E. (1988): Fundamentals of ecology, USA 3. Pimac, R. B. (1995): A primer of conservation biology. Sinauer Associates Inc, Massachusetts, USA.

OBJECTIVES AND LEARNING OUTCOMES

Course objectives	Through the course students do acquire crucial knowledge and understanding about animal kingdom, which is per se the essence of the study of veterinary medicine. The goal of teaching this course is to acquaint the students of veterinary medicine with the basic rules of functioning of living world and its relation to the non-living environment. It enables understanding of the wide range of processes from the transport of matter and energy from the level of cell and organism to the populations of all taxonomic groups of fauna and flora, and their relations on the level of ecosystem and entire biosphere. This is the precondition for any logical understanding of other courses from morphology and physiology to pathology, therapy and prevention of disease. Additional needs for this knowledge emerge from the ever broadening of spectrum of species treated in the veterinary medicine, an either as patients, husbandry, hunting, collection, or human consumption in any form. Regulations on environmental matters (like various waste disposal) and on international trade with living organism are also getting more complex and strict.
Learning outcomes	After successful completion of course, the student will be able to: 1. Categorize each animal to the level of phylum (Phylum), and mammals to the level of order (Ordo). 2. Interpret basic evolutionary processes. 3. Explain the structure and role of cell parts and the processes during cell division. 4. Differentiate types of reproduction, and methods and processes of fertilization. 5. Detect and combine the stages and processes of embryonic development of invertebrates and different groups of vertebrates. 6. Explain abiotic and biotic ecological factors and the mechanisms of their action. 7. Explain the type of biome and the stage in the succession of communities. 8. Categorize types of pollutants and the basic mechanisms of their action.

GRADING SCHEME

<i>Points</i>	<i>Grade</i>
Up to 59	1 (F)
60-76	2 (D,E)
77-84	3 (C)
85-92	4 (B)
93-100	5 (A)

Course leader



Associate professor Daniel Špoljarić, DVM, PhD

Head of organizational unit:



Associate professor Daniel Špoljarić, DVM, PhD

Note: The course leader is required to submit a Course Syllabus to all teachers and associates pertaining to the Course