

MINISTRY OF EDUCATION OF THE REPUBLIC OF AZERBAIJAN

KHAZAR UNIVERSITY

SCHOOL OF SCIENCE AND ENGINEERING

DEPARTMENT OF LIFE SCIENCES

GENERAL ZOOLOGY

SYLLABUS

Academic year and semester
Fall semester of the 2026/27 academic year

Teacher: Cand. Biol. Sci., Mehdi Ali

Approved by:

Head of Department:
Dr. J.M. Eldarova

General Information	Course title, code, and credits		General Zoology, BIO 105, 3 ECTs
	Department		Life Sciences
	Program (Bachelor/Master)		Bachelor
	Semester		Fall semester of the 2026/27 academic year
	Teacher		Cand. Biol.Sci. Mehdi Ali
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	Lecture room/Schedule		
	Consultation hours		Will be arranged after agreement with students
Prerequisites	None		
Language of instruction	English		
Course type	Compulsory elective		
Textbooks and additional sources	Main textbooks: 1. Hickman, Jr., C. P., Roberts, L.S., Keen, S.L., Eisenhour, D.J., Larson, A., I'Anson, H. (2011) Integrated Principles of Zoology (15th Edition), McGraw-Hill. 2. Moore, D.E., III. (2017) Zoology — Understanding the Animal World, The Teaching Company. Additional sources: 3. Corbeil, J.-C., Archambault, A. (2009) Animal Kingdom, Monreal (Quebec), QA International. 4. Kotral, R.L. (2010) Modern Textbook of Zoology — Vertebrates, New Delhi. 5. Lal, S.S. (2010) Practical Zoology — Vertebrates, Rastogi Publication.		
Websites of course	Amazon.com: Integrated Principles of Zoology: 9780073040509: Hickman, Jr., Cleveland, Keen, Susan, Larson, Allan, Eisenhour, David: Books Home Study Course on Zoology: Understanding the Animal World Plus The Visual Dictionary of Animal Kingdom (174p) - chua keo thai binh Flip PDF AnyFlip Modern Textbook Of Zoology Vertebrates: R.L. Kotpal: 9789350780954: Amazon.com: Books		
Teaching Methods	Lecture		x
	Group discussion		x
	Seminar		x
Assessment	Components	Date/Deadline	Percentage (%)
	Laboratory (Activity)	During the semester	10
	Assignments and quizzes 1 & 2	During the semester	10
	Individual presentation	During the semester	5
	Attendance	During the semester	5
	Midterm exam		30
	Final exam		40
	Total		100
Description of the course	This course introduces the scientific study of animals, focusing on their diversity, structure, function, and evolution. It begins with the fundamental principles of life, including the origin and chemistry of living systems, as well as the methods of zoological research. Students will explore the history of zoology, from early naturalists to modern evolutionary biology, highlighting key discoveries that shaped the discipline. The course examines evolution, genetics, and heredity as unifying frameworks for understanding animal life. The course covers the diversity and classification of animals, from simple invertebrates to complex vertebrates, with an emphasis on their evolutionary relationships. Functional biology is addressed through physiology, behaviour, ecology, and animal-environment interactions. Throughout the course, the links between molecular and cellular processes and larger evolutionary and ecological patterns are explored. By the end, students will have gained a comprehensive understanding of the unity and diversity of the animal kingdom, as well as the scientific principles that govern it.		

Goal of the course	The goal of this course is to provide students with a comprehensive understanding of the fundamental principles of zoology, including the origin and chemistry of life, the structural and functional organisation of animals, and the evolutionary processes that shape biodiversity. By integrating molecular, organismal, ecological, and evolutionary perspectives, the course aims to equip students with the knowledge and scientific approaches necessary to analyse animal life, appreciate its unity and diversity, and apply zoological concepts to broader biological and environmental contexts.
Learning Outcomes	By the end of the course, students should be able to: – Explain the fundamental principles of life, including the chemical, cellular, and physiological properties common to all organisms. – Describe the significant stages in the history of zoology and the contributions of key figures from Aristotle to Darwin and modern genetics. – Understand and apply the principles of evolution, heredity, and natural selection as the unifying framework of zoology. – Identify the major animal groups, their structural and functional characteristics, and their evolutionary relationships. – Use scientific terminology and the rules of taxonomy to classify animals accurately at different hierarchical levels. – Analyse how animals interact with their environment through behaviour, physiology, and ecological relationships. – Apply the scientific method to zoological problems, including observation, hypothesis formation, and testing. – Integrate knowledge from molecular, organismal, ecological, and evolutionary biology to explain patterns of animal diversity and adaptation.
Rules (Teaching Policy and Conduct)	Course Organization – General information related to the subject will be delivered to students during the lectures. – New topics will be explained with the use of visual aids (PPT and video files). – Before the midterm and final exams, students' level of understanding will be assessed through quizzes. – During seminar sessions, students' grasp of previous topics will be evaluated in each class through oral and written questioning; at the end of the semester, a cumulative grade will be given (Activity). – Throughout the semester, it is mandatory to deliver individual presentations on assigned topics. The presentation time, including discussion at the end, should not exceed 15 minutes. The issues and rules of presentations will be explained in more detail during the course. General rules Attendance Participation in all classes is mandatory. If students miss classes for specific reasons (e.g., illness, family circumstances), they must submit the relevant information to the faculty dean's office. Students who miss more than 25% of classes are not allowed to take the exam. Lateness A student who arrives more than 10 minutes after the scheduled start time is considered absent. Nevertheless, the student is still allowed to join the class session. Quizzes If a student misses a quiz for reasons previously reported to the instructor and the dean's office, they are permitted to take the quiz in the following week. Exams The faculty administration decides all matters related to student participation in exams or absence from them. Missing an exam is permitted only with the dean's approval. Absence due to public activities is not accepted as an excuse. Exams must be cumulative. The topics for the midterm and final exams are given to students in advance. In the final exam, most questions are based on the material covered after the midterm.

Completion of the Course A student who scores 60% or higher is considered to have completed the course. Otherwise, the student must retake it. Violation of Exam Rules If existing rules are violated during exams (such as attempts to cheat, cheating, disrupting the exam process, or other unlawful actions), the student's exam paper is annulled. Classroom Conduct Students must do everything possible to maintain an appropriate academic environment during class. Unauthorised talking, unnecessary movements, and other inappropriate behaviour are strictly prohibited. Students must actively participate in class, ask questions when necessary, and refrain from interrupting discussions. <i>Disrupting the class process or violating ethical standards, unauthorised discussions, and the use of mobile phones during class are strictly prohibited.</i>			
Schedule (subject to change)			
Week	Date/Day	Topics	Textbooks/Assignments
1.	16.09.2025	Topic No. 1. Principles of General Zoology, the Origin and Chemistry of Life	Leading textbook: 1-35
2.	23.09.2025	Topic No. 2. Brief Principles of Organic Evolution	Leading textbook: 35-71
3.	30.09.2025	Topic No. 3. The Reproductive Process and Principles of Development	Leading textbook: 71-134
4.	07.10.2025	Topic No. 4. Architectural Pattern of an Animal, Taxonomy and Phylogeny of Animals	Leading textbook: 134-184
5.	14.10.2025	Topic No. 5 (Quiz 1). Unicellular Eukaryotes, Sponges and Placozoans	Leading textbook: 184-216
6.	21.10.2025	Topic No. 6. Radiate Animals, Flatworms, Mesozoans	Leading textbook: 216-261
7.	28.10.2025	Topic No. 7. Ribbon Worms, Gnathiferans and Smaller Lophotrochozoans	Leading textbook: 290-333
8.	04.11.2025	Topic No. 8. Molluscs, Annelids and Allied Taxa	Leading textbook: 364-387
Midterm Exam			
9.	11.11.2025	Topic No. Smaller Ecdysozoans, Trilobites, Chelicerates, Myriapods and Crustaceans	Leading textbook: 387-444
10.	18.11.2025	Topic No. 10. Hexapods, Chaetognaths, Echinoderms, and Hemichordates	Leading textbook: 444-500
11.	25.11.2025	Topic No. 11. Chordates, Fishes, Early Tetrapods and Modern Amphibians	Leading textbook: 500-547
12.	02.12.2025	Topic No. 12. Amniote Origins, Nonavian Reptiles, Birds and Mammals	Leading textbook: 547-647
13.	09.12.2025	Topic No. 13. Support, Protection, Movement and Homeostasis	Leading textbook: 647-710
14.	16.12.2025	Topic No. 14 (Quiz 2). Digestion and Nutrition, Nervous and Chemical Coordination, Immunity	Leading textbook: 710-772
15.	23.12.2025	Topic No. 15. Animal Behaviour, Distributions and Ecology	Leading textbook: 772-786
Final exam			

This curriculum provides complete information about the subject, and any changes will be announced in advance.