ACADEMIC YEAR 2023/2024

General information		
Academic subject	**ZOOLOGY AND CELLULAR BIOLOGY** (integrated exam of ZOOLOGY, HISTOLOGY AND ANATOMY)	
Degree course	Animal Sciences L38	
Academic Year	I year	
European Credit Transfer and Accumulation System (ECTS)	6	
Language	Italian	
Academic calendar (starting and ending date)	I Semester: 02/10/2023 - 17/11/2023	
Attendance	Mandatory	

Professor/ Lecturer	
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Department and address	Campus of Veterinary Medicine S.P. 62 per Casamassima km 3, 70010 Valenzano (BA)
Virtual headquarters	Microsoft Teams platform if necessary (Teams Code: non8ahz)
Tutoring (time and day)	Tuesday 15:30-17:30 h; Thursday 15:30-17:30 h

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Syllabus	
Learning Objectives	The teaching course of Zoology and Cellular Biology is one of the basic disciplines of the first year of the Degree course. The main objective of the course is to provide general knowledge on the structure and functions of the different cell types, as well as on the main characteristics of animals. The knowledge gained will support students in the study of other basic disciplines (Histology, Anatomy and Physiology) and professional disciplines as well.
Course prerequisites	The students must have passed the examination of Structural and Metabolic Biochemistry.
Contents	Composition and organization levels of the living matter. Autotrophic and heterotrophic organisms. Prokaryotic cells. Eukaryotic cells. Cell membrane and transports. Hyaloplasm. Ribosomes. Endoplasmic reticulum. Golgi apparatus. Mitochondria. Cytoskeleton. Nucleus and nucleolus. Cell-cell junctions. Cell surface specializations. DNA structure. DNA Replication. DNA transcription and protein synthesis. Cell cycle. Mitosis. Meiosis. Reproductive processes. Biological cycles. Glycolysis and cellular respiration. Plant cell and photosynthesis. Evolution of animal diversity. Architecture and animal development models. Criteria and methods of animal classification. Protozoa, Platyhelminths, Nematodes, Molluscs, Annelids, Arthropods, Echinoderms, Chordates.
Books and bibliography	• Solomon, Berg, Martin. Fondamenti di Biologia. EdiSES. • Hickman, Keen, Larson. Diversità Animale. McGraw-Hill Education.
Additional materials	Lecture notes; teaching material used during the classes (PPT slides) and provided by the teachers.

Work schedule			
Total	Lectures	Hands on (Laboratory, working groups, seminars, field trips)	Out-of-class study hours/ Self-study hours

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Hours			
150	48		102
ECTS			
6	6		

Teaching strategy	
	Frontal lectures by means of PowerPoint presentations. Lessons will take place in classrooms equipped with multimedia tools. The course is not delivered in e-learning mode (with the exception of health emergency).
Expected learning outcomes	
Knowledge and understanding on:	○ Structure and functions of the different cell types. ○ Basic biological processes. ○ Classification of animal organisms. ○ General characteristics of organisms of zootechnical interest.
Applying knowledge and understanding on:	○ Adequate descriptive skill of cells and basic biological processes. ○ Identification of the animal organization levels. ○ Adequate descriptive skill and knowledge of basic elements of the biology of organisms of zootechnical interest.
Soft skills	• *Making informed judgments and choices* ○ At the end of the course the student will be able to understand and critically evaluate the biological processes and the relationships between the environment and animal organisms. • *Communicating knowledge and understanding* ○ At the end of the course the student will learn both the terminology related to the structure and cell function, as well as the terminology related to animal diversity. • *Capacities to continue learning* ○ At the end of the course the student will develop the ability to autonomously deal with the study of biological processes and animal species different from those covered during the course.

Assessment and feedback	
Methods of assessment	The course includes a final oral exam during which the student must demonstrate adequate knowledge of cell biology and zoology. The completeness of the descriptions of both the biological processes and the different animal organisms, together with the ability to make connections between the two disciplines, will be decisive for the evaluation. The outcome of the integrated exam of "Zoology, Histology and Anatomy" will result from the weighed mean of the marks of the exams of "Histology and Applied Anatomy of Domestic Animals" and "Zoology and Cell Biology".
Evaluation criteria	• *Knowledge and understanding* ○ The ability to describe the cellular processes and the different animal organisms with adequate mastery will be evaluated. • *Applying knowledge and understanding* ○ The ability to explain basic biological processes and to identify animal organisms based on morphological and functional characteristics will be assessed. • *Autonomy of judgment* ○ The ability to critically describe the topics covered during the teaching course will be considered. • *Communication skills*

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	○ The ability to use specific vocabulary and the ability to provide a comprehensive description of the topics covered during the teaching course will be assessed. • *Capacities to continue learning* ○ The ability to provide adequate answers also on topics mentioned during the course and explored autonomously will be considered.
Criteria for assessment and attribution of the final mark	The final grade is expressed out of thirty. The exam is passed when the grade is greater than or equal to 18/30. The ability to describe the cellular processes and the different animal organisms, in terms of correct description and use of specific terminology, will contribute to the determination of the final grade. The maximum mark will be awarded to students who demonstrate mastery of the topics, language property, high degree of in-depth analysis and critical judgment skills.
Additional information	
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