

COURSE OF STUDY: Scienze Erboristiche e Nutraceutiche

ACADEMIC YEAR: 2023-2024

ACADEMIC SUBJECT: Animal biology

Module of integrative course of Animal and Plant Biology, 10 CFU

General information	
Year of the course	1st year
Academic calendar (starting and ending date)	from 02/10/2023 to 19/01/2024
Credits (CFU/ETCS):	5
SSD	BIO/13
Language	Italian
Mode of attendance	In presence

Professor/ Lecturer	
Name and Surname	Nicoletta GUARAGNELLA (F-N)
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Telephone	
Department and address	Dip. Bioscienze, Biotecnologie ed Ambiente, via Orabona 4, 70125, Bari
Virtual room	
Office Hours (and modalities: e.g., by appointment, on line, etc.)	The student reception takes place in the professor's room every day upon agreement by email, or on Teams (at the request of the student)

Work schedule			
Hours			
Total	Lectures	Hands-on (laboratory, workshops, working groups, seminars, field trips)	Out-of-class study hours/ Self-study hours
140	32	15	93
CFU/ETCS			
5	4	1	

Learning Objectives	<i>Acquisition of the principles and scientific methodology in the study of biological molecules, of animal cells and of basic genetics</i>
Course prerequisites	<i>Since it is a first-year course, there are no other prerequisites than the ones required to access the degree course</i>

Teaching strategie	<i>Lectures in presence using presentation slides and blackboard. Interactive exercises during the lessons. Teaching is not performed in any e-learning mode.</i>
Expected learning outcomes in terms of	
Knowledge and understanding on:	<ul style="list-style-type: none"> ○ knowledge of the structure and function of the main life molecules ○ knowledge of the structural and functional components of eukaryotic animal cells

	<ul style="list-style-type: none"> ○ general knowledge of the main cellular processes occurring in eukaryotic animal cells
Applying knowledge and understanding on:	<ul style="list-style-type: none"> ○ ability to generalize and to apply the biological knowledge acquired on structures, functions and processes ○ ability to correlate concepts and to get a wide and integrated view of the subject
Soft skills	<ul style="list-style-type: none"> ● <i>Making informed judgments and choices</i> <ul style="list-style-type: none"> ○ gaining autonomy in the study and ability to critically evaluate and deepen the topics covered ● <i>Communicating knowledge and understanding</i> <ul style="list-style-type: none"> ○ gaining the correct jargon and the appropriate terms to transfer the acquired concepts with rigor and clarity ● <i>Capacities to continue learning</i> <ul style="list-style-type: none"> ○ gaining concepts and study methods that will favor the further learning and the biological framework of the following academic subjects
Syllabus	
Content knowledge	<p><i>Classification of living organisms. Scientific method. Macromolecules: structure and functions. DNA replication, Transcription and Translation. Introduction to cell biology. Methodologies to study the cells. Structure and functions of eukaryotic cellular components: plasma membrane, nucleus, ribosomes, endoplasmic reticulum, Golgi apparatus, lysosomes, peroxisomes, mitochondria, cytoskeleton. Transport processes through biological membranes. Cell cycle: phases and regulation. Meiosis and sexual reproduction. Mutations. Genomes. Genetics: Mendel and genetic diseases.</i></p>
Texts and readings	<ul style="list-style-type: none"> ● <i>presentation slides provided by teacher</i> ● <i>Reece et al. Campbell – Biologia e Genetica, Pearson</i> -<i>Sadava et al., Biologia (o edizione in fascicoli) Ed. Zanichelli –</i> -<i>Solomon et al., BIOLOGIA , Ed. EdiSES</i> -<i>Raven- Johnson-Mason-Logos-Singer, BIOLOGIA, ed Piccin</i> -<i>Basi molecolari e cellulari della vita, ed Piccin</i> -<i>L'essenziale di biologia molecolare della cellula, Alberts B. et al. V edizione, Zanichelli</i> ● <i>Urry et al. Campbell – La forma e la funzione nelle piante, Pearson</i>
Notes, additional materials	
Repository	
Assessment	
Assessment methods	<p><i>Oral examination using a 30-point-scale. Midterm and optional written tests may be considered. The minimum requisite to pass the exam is to show to have acquired a basic knowledge on the biological structures and functions that have been described in the classroom. The formulation of the final vote will take into account the deepening degree of the acquired knowledge, the ability to integrate and elaborate it and the usage of the correct terminology.</i></p>
Assessment criteria	<ul style="list-style-type: none"> ● <i>Knowledge and understanding</i> <ul style="list-style-type: none"> ○ evaluation of the quantity of knowledge acquired and understood with respect to what is explained by the teacher ● <i>Applying knowledge and understanding</i> <ul style="list-style-type: none"> ○ evaluation of the ability to apply the acquired knowledge through the use of multiple examples ● <i>Autonomy of judgment</i>

	<ul style="list-style-type: none"> ○ evaluation of the autonomy of judgment by the ability to solve proposed problems by using known concepts ● <i>Communication skills</i> <ul style="list-style-type: none"> ○ evaluation of the clarity and completeness of the student answers ● <i>Capacities to continue learning</i> <ul style="list-style-type: none"> ○ evaluation of the ability to integrate different pieces of knowledge with competence and flexibility
Final exam and grading criteria	<i>The exam is passed when the final vote is equal or greater than 18/30, that is when the student demonstrates to have acquired and understood the basic knowledge on several arguments of the program. Aspects that contribute to increase the final vote are the deepening degree and the capacity to communicate the acquired knowledge. To obtain a high vote the student must have developed autonomy of judgment and must show the ability to integrate and apply the acquired knowledge.</i>
Further information	
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