



Universitat de Lleida

DEGREE CURRICULUM
ANIMAL BIOLOGY

Coordination: ROJAS CAÑADAS, EBER

Academic year 2023-24

Subject's general information

Subject name	ANIMAL BIOLOGY			
Code	100307			
Semester	1st Q(SEMESTER) CONTINUED EVALUATION			
Typology	Degree	Course	Character	Modality
	Double bachelor's degree: Bachelor's Degree in Veterinary Medicine and Bachelor's Degree in Science and Production	1	COMMON/CORE	Attendance- based
Course number of credits (ECTS)	6			
Type of activity, credits, and groups	Activity type	PRALAB	TEORIA	
	Number of credits	2	4	
	Number of groups	3	1	
Coordination	ROJAS CAÑADAS, EBER			
Department	ANIMAL SCIENCE			
Teaching load distribution between lectures and independent student work	Hores presencials: 60 Hores no presencials: 90			
Important information on data processing	Consult this link for more information.			
Language	Català: 50% Castellà: 50%			

Teaching staff	E-mail addresses	Credits taught by teacher	Office and hour of attention
GASSO GARCIA, DIANA	diana.gasso@udl.cat	1	
MUÑOZ ODINA, MARIA PILAR	pilar.munyo@udl.cat	5	
PALACÍN CHAURI, ROGER JOAN	roger.palacin@udl.cat	3	
ROJAS CAÑADAS, EBER	eber.rojas@udl.cat	1	

Subject's extra information

Exceptionally, the 2020-21 course will be blended.

Learning objectives

Knowledge objectives: The student who passes the subject must:

1. Know and know the characteristics of living beings
2. Know and know the fundamental aspects of Taxonomy and Systematics, and the large taxonomic groups
3. Know and understand the structural and functional characteristics of subcellular entities.
4. Know and understand the structural and functional characteristics of prokaryotic cells
5. Know and understand the structural and functional characteristics of animal and plant cells
6. Know and understand the structural and functional characteristics of cellular reproduction
7. Know and understand the structural and functional characteristics of plants
8. Know and understand the structural and functional characteristics of animals.
9. Know and understand animal biodiversity.
10. Basic concepts of evolution and animal ecology

Ability objectives: The student who passes the subject must be able to:

1. Use and integrate the knowledge acquired in this subject in the study of the related subjects of the degree.

2. You will know how to use the terminology of Biology in an appropriate way, and use independently the sources of the information of the Biological Sciences.

3. You will master cellular diversity and its study techniques. He must also have a knowledge of the animal world, its diversity and the functioning of its structures.

Competences

General skills

Strategic competences of the University of Lleida

1. Correction in oral and written expression
2. With respect to the fundamental rights of equality between men and women, to the promotion of Human Rights and the values of a culture of peace and democratic values.

Transversal skills of the degree

1. Interpret studies, reports, data and analyze them numerically.
2. Work alone and in a multidisciplinary team.
3. Understand and express yourself with the appropriate terminology.
4. Discuss and argue in various debates.
5. Analyze and assess the social and ethical implications of professional activity.
6. Have a critical and innovative spirit.

CSA specific skills

1. Acquire an integrated view of cellular structures, relating them to their specific functions and the biochemical processes involved.
2. Be able to recognize the characteristics of the main taxonomic groups of animals and plants

Other skills

1. Morphology, bionomics and systematics of animals and plants of veterinary interest.
2. Structure of the eukaryotic cell and its organization in tissues and organs

Subject contents

INTRODUCTION

1. Characteristics of living beings. Basic chemistry of life. Organic molecules. Classification of organisms: Taxonomy and Systematics. Structural levels of organization.

2. Subcellular entities: Viruses, viroids and prions

CELL BIOLOGY

3. Concept of Cell. Cell theory. Cellular Diversity
4. Organization of the Prokaryotic Cell.
5. Organization of the Eukaryotic cell. plasma membrane
6. Cytoplasmic organelles.
7. Organization of the Eukaryotic cell. cell nucleus
8. The cell cycle. Mitotic cell division.
9. The meiotic cell division.
10. Differential characteristics between animal and plant cells: the Cell Wall, Plastids and vacuoles

PLANT BIOLOGY

11. Structure of plants. Plant tissues.
12. Stems and transport in plants.
13. Roots and mineral nutrition.
14. Structure and function of leaves.
15. Photosynthesis.

ZOOLOGY

16. LEVELS OF ORGANIZATION: Structural levels of organization. Animal organization plan. Concept and type of symmetry.
17. REPRODUCTION: Type of reproduction: asexual and sexual. parthenogenesis Adaptive meaning of the different reproductive patterns. DEVELOPMENT: Biological cycles. Larval development and metamorphosis.
18. EVOLUTION.
19. ANIMAL BEHAVIOR.
20. ANIMAL ECOLOGY
21. PROTOZOA. General characteristics, reproduction, biological cycles and systematics
22. PORIPHERS; CNIDARIANS; PLATYHELMINTHS and NEMATODES. General characteristics, structural types, reproduction and systematics. Biological cycles of platyhelminths and parasitic nematodes.
23. MOLLUSCS and ANNELLIDS. General characteristics, structure, reproduction, biology and systematics. Adaptations to different media
24. ARTHROPODS. General characteristics. systematic Large groups and their Biology. Ecological importance. Agricultural interest groups.
25. VERTEBRATES I. General characteristics, relationships and phylogeny, systematic.
26. VERTEBRATES II. Main groups Adaptations to aquatic life. Modifications and adaptations to the terrestrial environment. Biological strategies. Main adaptations in birds and mammals.

Practical activities

LABORATORY:

1. Introduction to optical microscopy. Cell diversity: animal cell, plant cell.
2. Search for scientific information. bioinformatics
3. Plasts and protists.
4. Mitotic cell division
5. Extraction of vegetable pigments.
6. Departure to the Amphibious and Reptile Recovery Center of Catalonia (CRAC)
7. Animal species identification I
8. Animal species identification II
9. Exit II
10. Animal species identification III
11. Animal species identification IV

The contents of zoology can be modified by the teaching staff during the course according to their criteria

Methodology

Fundamentally, lectures will be given where you can debate, teach in reverse, work in groups and discuss topics that the professors consider appropriate.

Teaching online is also considered in decisive cases when the teacher deems it appropriate

Development plan

Tipus Activitat	Descripció resumida de l'activitat (Títol de tema o activitat pràctica)	Dedicació (hores)	Setmana
TEO	Característiques dels essers vius. Classificació dels organismes	1h	1
TEO	Entitats subcel·lulars	2 h	1
TEO	Concepte de cèl·lula	0.5 h	1
TEO	Organització cèl·lula procariota	2 h	2
TEO	Organització cèl·lula eucariota	2h	2
TEO	Característiques diferencials entre cèl·lules animals i	1 h	3

TEO	El cicle cel·lular	2 h	3
TEO	Divisió cel·lular meiótica	1h	3
TEO	La fecundació	1 h	4
TEO	Estructura de les plantes	1 h	4
TEO	Estructura i funció de les fulles	1.5h	4
TEO	Tiges i transport en les plantes	1h	4
TEO	Arrels i nutrició mineral	1h	5
TEO	Reproducció en les plantes amb flors	1h	5
TEO	Creixement i desenvolupament en les plantes	2 h	5
LAB	Diversitat eucariota	2h	6
LAB	Pràctica 2. Diversitat procariota	2h	6
LAB	Pràctica 3. Divisió cel·lular mitòtica	2h	7
LAB	Aïllament de àcids nucleics	2h	7
LAB	Anàlisi de la viabilitat de les llavors	2h	6 i 7
TEO	Nivells d'organització	2h	8

TEO	Reproducció	2h	8
TEO	Evolució.	1h	9
TEO	Comportament animal.	1h	9
TEO	Ecologia animal.	1h	9
TEO	Protozous.	1h	9
TEO	Porífers, Cnidaris; Plathelminths i Nematodes.	1h	10
TEO	Mol·luscs i anèl·lids.	1h	10
TEO	Artròpodes.	3h	10
TEO	Vertebrats I.	3h	10 i 11
TEO	. Vertebrats II	4h	11 i 12
LABI	Animal Identification I	2 h	12
LAB	Animal Identification II	2 h	13
LAB	Animal Identification III	2 h	13
LAB	Animal Identification IV	2 h	14
SO	Going out	4h	14 i 15

Observacions

The subject is structured in three types of activities: theoretical classes, laboratory practices and recognition of animal specimens. The development of the subject is structured in 2-hour sessions. Specific exercises and problems are

included in the development of the theoretical classes. In the practical laboratory classes, students will have a practice script with a theoretical introduction, material and methods to follow during the same. These scripts can also contain a series of questions that the student will have to answer with the results obtained. A series of slide sessions on the recognition of Catalan fauna species will be included.

Evaluation

Evaluation system

1. There will be: Two learning controls during the school year.
2. The practices will be evaluated in each session where the learning and interest shown will be controlled. The reports of the practical classes will be delivered within the time and place indicated by the teacher. The grade for the practical classes will be the grade for the practical exam.
3. The slide sessions will be evaluated through a visu exam where the student will have to show knowledge of the main animal species of Catalonia.

The final grade will be a weighting of the different parts of the subject:

Part of Cellular and Plant Biology:

16% grade for practical classes

34% Theory written test

Failure to attend practice classes will be penalized with 1.5 points in each unattended practice.

Part of Zoology: Understand point IV

16% Visu: recognition of animal species. It is necessary to recognize at least 60% of the Iberian fauna species

34% Written test where the theory, practical questions and exits will be assessed.

To take the weighted average in the biology part, you must obtain a theory and practical grade equal to or greater than 4. If you do not have this grade, you will go directly to the recovery exam for the corresponding part.

To pass the subject you must obtain a grade >4.9 .

In the controls, the knowledge of the concepts explained and the work carried out by the student in acquiring this knowledge will be assessed, as well as the ease of including it within the biological knowledge required by the degree.

In the case of very serious errors or ignorance of some emblematic species, the student will be penalized in the final grade and may be a reason for failure. This criterion can also be used in the other parts of the subject.

In the biology part, the theory exam will be multiple choice questions and the practice exam will be short questions.

In the zoology part, the theory exam will be a multiple choice exam of 30 questions with 4 multiple answers and the practical exam will be for the identification of animal specimens.

There will be the possibility of an alternative evaluation if the student indicates it, which may take place in the month of January where all the parts will be evaluated together in a single multiple choice theory exam and another practical exam.

The practice grade from previous years is not saved

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