

Exotic and Zoo Animal Medicine

Code: 102637
ECTS Credits: 3

Degree	Type	Year	Semester
2502445 Veterinary Medicine	OT	5	0

The proposed teaching and assessment methodology that appear in the guide may be subject to changes as a result of the restrictions to face-to-face class attendance imposed by the health authorities.

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Use of Languages

Principal working language: catalan (cat)
Some groups entirely in English: No
Some groups entirely in Catalan: Yes
Some groups entirely in Spanish: No

External teachers

Hugo Fernandez (Veterinari del Zoo de Barcelona)

Prerequisites

There are no specific prerequisites for taking this course, but it is recommended to have taken the subject of Animal medicine and Surgery (MiCA) of fourth year and to study MiCA II of fifth year in order to understand and assimilate the content of the subject of clinical Exotic Animals and Zoo Clinical more easily.

Objectives and Contextualisation

In the subject of Exotic Animal and Zoo Clinical have treated the conditions of acclimatization and handling and the main diseases, their diagnosis, and treatment, affecting small mammals, birds and reptiles that are kept as pets and are acclimatized in zoos.

The objectives of the course are:

- 1-to learn the anatomical and physiological characteristics and the behaviour of exotic animals: mammals, birds, and reptiles.
- 2-To learn the acclimatization and diet in captivity of each species.
- 3-To learn the clinical approach, to learn how to restrain the patients to be able to explore and to take samples.
- 4-to know the most frequent and the most important diseases affecting exotic animals.
- 5-to know the diagnostic tests indicated for each disease in each species.
6. to acquire basic knowledge of therapeutics and surgery in exotic animals.

Competences

- Analyse, synthesise and resolve problems and make decisions.
- Apply the basic cures that guarantee the correct function of the reproduction cycle and the resolution of obstetric problems.
- Assess and undertake epidemiological studies and therapeutic and preventive programs in accordance with the standards of animal welfare, animal health and public health.
- Attend to emergencies and perform first aid in veterinary science.
- Collect, preserve and issue all types of samples with the corresponding report.
- Demonstrate generic knowledge of animals, their behaviour and the bases of their identification.
- Demonstrate knowledge and understanding of standards and laws in the veterinary field and regulations on animals and their trade.
- Demonstrate knowledge and understanding of the general bases of medical and surgical treatments.
- Demonstrate knowledge of the rights and duties of the veterinarian, with a special focus on ethical principles
- Diagnose different individual and collective animal diseases, and know about prevention measures, with emphasis on zoonoses and notifiable disease.
- Diagnose the most common diseases using different general and instrumental techniques.
- Have basic knowledge of the profession, and in particular of the organisation and functions of professional practice.
- Make clinical records and accurate and complete clinical exploration of animals.
- Perform basic analytical techniques and interpret the clinical, biological and chemical results, and interpret the results of tests generated by other laboratories.
- Perform the most common medical and surgical treatments of animals.
- Prescribe and dispense medicines correctly and responsibly in accordance with legislation, and ensure that the medicines and waste are stored and eliminated properly.
- Recognise when euthanasia is necessary and perform it humanely by employing the appropriate method.
- Safely perform sedations and regional and general anaesthesia, and evaluate and control the pain.
- Treat and handle animals in a safe and humanitarian manner, and instruct other people to properly employ these techniques.

Learning Outcomes

1. Analyse, synthesise and resolve problems and make decisions.
2. Apply advanced knowledge of internal medicine in small, equine and exotic animals.
3. Apply ethical values that govern the behavior of veterinarians in clinical practice in relations with other veterinarians.
4. Apply the concepts acquired for recognition and manipulation of instruments, manipulation of tissues, haemostasis, drainage and sutures, as well as helping effectively in surgical interventions recognising the typical instruments of surgical specialities (traumatology and orthopaedics, thoracic surgery, ophthalmology, neurology, exotic...).
5. Be responsible for the medication and daily care of patients (small, equine and exotic animals).
6. Defend the ethical values that determine the decision making in diagnostic procedures, medical or surgical treatment or any medical procedure, subject to the rights of animals and their owners.
7. Define the problems found in physical examinations or clinical record of an animal, and produce a list of problems, differential diagnosis and the diagnostic protocol in all clinical specialities and for different species.
8. Demonstrate knowledge of the general principles of the medical and surgical treatments of ophthalmological disorders of small, equine and exotic animals.
9. Describe the basic procedures applied to emergencies that affect equines and exotic animals
10. Determine the ideal positions to obtain radiographic images of the different pathological processes and X-rays and use and apply contrast methods in small, equine, exotic and zoo animals.
11. Diagnose and treat the main dermatological disorders that affect small, equine and exotic animals.
12. Diagnose, treat and issue prognosis of the main problems with neonate and geriatric patients that affect small, equine and exotic animals.
13. Diagnose, treat and issue prognosis of the main types of oncological disorders that affect small, equine and exotic animals.
14. Distinguish the behaviour of different animal species (small, equine and exotic animals).

15. Distinguish the main contagious diseases that affect exotic and zoo animals and plan and assess diagnostic, therapeutic and preventive programs.
16. Evaluate in writing the clinical progress of the patient during its time in hospital.
17. Explain the regulations applied to the planning and operation of different veterinary establishments (surgeries, clinics and hospitals) that treat small, equine and exotic animals.
18. Fill in anamnesis and exploration records in all clinical specialities.
19. Handle different autochthonous wildlife species in a safe way for them and the veterinarian.
20. Hold animals when performing examinations, caring or taking samples in a way that causes the minimum possible stress and be able to explain to other people how to do the same.
21. Identify and treat the processes that affect the reproduction apparatus of male and females in small, equine and exotic animals.
22. Identify the biopsy techniques that can be applied for obtaining samples of different organs and tissues.
23. Identify the conditions in which euthanasia is the only possible option, or the most suitable, depending on the general state of the sick animal and appropriately propose this to the owners.
24. Identify the regulations that affect breeding of animals with congenital disorders and/or acquired hereditary aetiology (small, equine, exotic and zoo animals).
25. Identify, treat and prevent the main eye diseases of small, equine and exotic animals.
26. Interpret X-rays and echography, and have basic knowledge of the interpretation of MR and IMR applied to clinical cases. Know the indications and limitations of different techniques (with and without contrast, type of apparatus, limitations...) in small, equine, exotic and zoo animals
27. Interpret the results of diagnostic tests (analytical tests, X-rays, echography, endoscopy, PCR, serology...) that are fundamental for advanced diagnosis in the medication and surgery of small, equine and exotic animals.
28. Objectively evaluate the pain of sick animals and decide on the analgesia scheme depending on the species, age, location and cause of the pain and the state of the patient.
29. Perform a hemogram and blood test with emergency equipment, and recognise the limitations of these systems and defend interpretations.
30. Perform differential diagnoses and diagnostic plans, taking into account the available complementary techniques applied to all clinical specialities and different species.
31. Perform the basic surgical procedures of different clinical specialities and take samples in small, equine, exotic and zoo animals.
32. Plan the most suitable anaesthetic protocol depending on the animal species and the general state of the patient, as well as the type of intervention required.
33. Prepare an animal for echography, recognise the type of probe and suitable positioning for exploration of the different organs and/or tissues in small, equine, exotic and zoo animals.
34. Prepare an animal for endoscopy and interpret the images for the exploration of the different organs and/or tissues in small, equine, exotic and zoo animals.
35. Properly apply euthanasia to small, equine and exotic animals.
36. Properly calculate the doses of medicine for different animal species. Know the limitations of some drugs depending on the species or even the breed, as well as the specific contraindications.
37. Properly fill in forms requesting biopathological and histopathological analyses of pertinent samples of pet, equine, exotic or zoo animals.
38. Recognise pathological changes in X-rays, echography, endoscopies, CAT and MR and interpret them properly.
39. Recognise personal limitations and know when to ask for professional advice and help.
40. Recognise the adverse effects that different medications can cause and observe established pharmacovigilance legislation
41. Recognise the disorders that require urgent assistance and know how to prioritise them by severity.
42. Recognise the main problems that will require emergency surgery.
43. Recognise the moment when a case needs to be passed to a specialist for diagnosis and/or treatment, and if required, or not, an urgent examination.
44. Show responsibility regarding the need to perform necessary complementary tests on the patient and know how to evaluate the meaning and integrate it in the evolution of hospitalised patients of different species.
45. Stabilise critical animals.
46. Use the necessary basic knowledge to deal with an animal with a cardiologic disorder (small, equine and exotic animals).

Content

PROGRAMME

SMALL MAMMALS

Topic 1. Introduction to the clinic of rabbits and rodents.

Topic 2. The most important rabbits and rodents diseases.

Topic 3. Introduction to the clinic of Ferrets.

Topic 4. The most important ferret diseases.

Birds

Topic 5. Keeping Conditions of birds in captivity, handling, and physical examination.

Item 6. Diseases of the Genito-Urinary system.

Chapter 7. Diseases of the respiratory tract.

Topic 8. Diseases of the digestive tract.

Topic 9. Skin diseases.

Reptiles

Topic 10. The anatomy and physiology of reptiles.

Topic 11. Conditions of maintenance in captivity, handling, and physical examination.

Unit 12. Most common diagnostic techniques and diseases.

PRACTICALS

SEMINAR PROGRAMME (Compulsory attendance)

Seminar 1. Veterinary management and planning of a Zoo. Zoo clinical cases (2h)

Seminar 2. Neurological examination of birds and small mammals. 2h

Seminar 3. Ophthalmology in birds and reptiles (2h)

Seminar of Clinical Cases (2h): A total of three: 1 x 4 groups: 12 Practice Groups

CLINICAL PRACTICE (Compulsory attendance)

Practicals at the Hospital Clínic Veterinari (HCV). For two mornings: Monday and Wednesday from 9-14h, the students will attend the consultations of the exotic animals Service at the HCV. Students will see how each clinical case is developed and resolved; From taking the anamnesis, performing a physical examination, making a differential diagnosis; How to decide and carry out diagnostic tests both sampling and analytical development, performing and evaluating imaging techniques, and in the case of hospitalized animals or surgical procedures, the students will learn how to manage and check the hospitalized patients, and do an anaesthetic control and they will see different surgical techniques.

Methodology

The subject has 3 ECTS with an attendance of 41%.

To develop the subject:

A-13h of theoretical classes in the classroom: lectures

B-3 Seminars of 2 hours: compulsory attendance

C-10 hours: Practicals in the service of exotic animals: HCV: compulsory attendance

D-2 hours of Clinical cases-seminars: discussion of clinical cases and an oral presentation

of students accompanied by a powerpoint or similar format, seen during the week at the

The HCV. The student will have one week at least, to prepare it; the time depends on the calendar.

There is a recommended bibliography list to complete the course and to carry out the discussion of the clinical case.

Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Clinical case seminar	6	0.24	
Practicals at the HCV	10	0.4	
Seminars	6	0.24	
Theorics	13	0.52	
Type: Autonomous			
Clinical case development	14	0.56	
Study	26	1.04	

Assessment

The evaluation of the subject is represented with a numerical mark from 1 to 10.

The 50% of the mark is the result of a theoretical multiple-choice question; the 50% is the result of practical at HCV, where the attitude, aptitude and the knowledge of the student will be evaluated with a 10% of the mark, and of the presentation of the clinical case, where the scientific content, the capacity of communication and the knowledge of the student will be evaluated with a 40% of the mark.

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Attitude, skills	10%	0	0	1, 35, 4, 2, 3, 16, 36, 6, 7, 8, 44, 9, 10, 11, 12, 13, 14, 15, 45, 17, 30, 31, 29, 24, 21, 23, 22, 25, 27, 26, 19, 37, 18, 32, 33, 34, 38, 43, 40, 42, 41, 39, 5, 20, 46, 28
Clinical case development	40%	0	0	1, 2, 8, 10, 11, 12, 13, 14, 17, 24, 21, 25, 27, 26, 43, 46
Multiple choice	50%	0	0	1, 2, 3, 16, 6, 7, 8, 44, 9, 11, 12, 15, 30, 21, 23, 27, 26, 40, 42

Bibliography

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- Quesenberry KE, Carpenter JW (eds): Ferrets, rabbit, and rodents. Clinical medicine and surgery (3rd ed). Elsevier. 2011
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- Lewington JH (ed): Ferret husbandry, medicine and surgery (2ed). Saunders Elsevier. 2007
- Capello V, Lennox AM: Clinical radiology of exotic companion mammals. Wiley-Blackwell. 2008
- Silverman S, Tell L: Radiology of rodents, rabbits and ferrets: An Atlas of normal anatomy and positioning. Saunders Elsevier. 2004
- Oglesbee BL: Blackwell's five-minute consult: Small mammal (2 ed). Wiley-Blackwell. 2011
- Ritchie BW, Harrison GJ, Harrison LR: Avian Medicine: principles and application. Zoological Education Network. 1994
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- Chitti J, Lierz M (eds): BSAVA manual of raptors, pigeons and passerine birds. BSAVA. 2008
- Tulli TN, Dorrestein GM, Jones AK (eds): Handbook of avian medicine (2ed). Saunders elsevier. 2009
- Samour J (ed): Avian Medicine (2 ed). Mosby. 2008
- Silverman S, Tell L: Radiology of birds: An atlas of normal anatomy and positioning. Saunders Elsevier. 2009
- Donelei B: Avian medicine and surgery in practice. CRC press. 2010
- Mader DR (ed): Reptile medicine and surgery 2 ed. Elsevier Saunders. 2005
- McArthur S, Wilkinson R, Meier J (eds): Medicine and surgery of tortoises and turtles. Blackwell Publishing. 2004
- Girgling SJ, Raiti P (eds): BSAVA manual of reptiles (2 ed). BSAVA. 2004
- Millee, Fowler's Zoo and Wild Animal Medicine Current Therapy, Volume 7. 2012

Journals:

Journal of Exotic Pet Medicine

Journal of Avian Medicine and Surgery

Bulletin of Association of Reptile and Amphibian Veterinarians

Journal of Zoo and Wildlife Medicine

