

POLI ESCOLA SUPERIOR SAÚDE TÉCNICO GUARDA	SUBJECT DESCRIPTION	MODELO PED.015.03
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Course	Pharmacy					
Subject	Veterinary Pharmacy					
Academic year	2023/2024	Curricular year	3º	Study period	1º	
Type of subject	Compulsory	Student workload (H)	Total: 81	Contact: T:15; TP:22,5; OT:7,5	ECTS	3
Professor(s)	Ana Raquel Augusto Lima					
<input type="checkbox"/> Area/Group Coordinator <input checked="" type="checkbox"/> Head of Department		(select)	Ana Raquel Augusto Lima			

PLANNED SUBJECT DESCRIPTION

1. LEARNING OBJECTIVES

In the final of semester students will have to reach the objectives related to knowledge, attitudes, and behaviours important to care to animals, which could be systematized as follows:

- O1. Understand the legislation about veterinary pharmacy.
- O2. Understand the main differences between animal species.
- O3. Understand the general mechanisms of drug action of the main pharmacotherapeutic groups for veterinary use.
- O4. Identify the main formulations for veterinary use as well as the major routes of administration.
- O5. Know and interpret the rules for the prescription and dispensing of veterinary drugs;
- O6. Understand the implication in public health from the use of veterinary medicines;
- O7. Analyse practical cases of counselling on veterinary medicines and products for veterinary use;
- O8. Search scientific information, systematize it and develop autonomous work and group work.

With the previous education objectives, it will be intended that students develop skills in veterinary pharmacy in order to be licensed to:

- Know, prepare, distribute and store medicines for veterinary use.
- Monitor and control its use and its possible impact on humans.
- Develop counselling capacity of veterinary pharmaceuticals.
- Develop the ability to analyse scientific texts and explain the theoretical bases of practical problems.
- Develop the ability of self-learning, research and selection of adequate information.

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- Develop adequate capacities for synthesis and communication.
- Demonstrate skills essential to teamwork and knowledge of ethical and deontological notions underlying the relationship with colleagues, other professionals and patients.

2. PROGRAMME

C1. General introduction about legislation and main characteristics of veterinary medicines and products for veterinary use;

C2. Sources of information on the area of Veterinary Pharmacy;

C3. General approach on registration, manufacture, inspection and sale of veterinary medicines and storage, conservation and wholesale distribution;

C4. Dosage forms and administration of veterinary medicines/products;

C5. Frequent pathologies in pets and breeding animals and relevant zoonoses;

C6. Prevention of diseases in pets and breeding animals (vaccination);

C7. Pharmacology and veterinary therapy;

C8. Medical prescription and prescription and dispensing rules for veterinary medicines;

C8. Monitoring, surveillance and control of distribution, dispensing and use of medicines for veterinary use. Preparation of veterinary drugs in the pharmacy;

C9. Therapeutic aspects of Public Health of drug residues in food-producing animals.

3. COHERENCE BETWEEN PROGRAMME AND OBJECTIVES

The contents included in the field of veterinary pharmacy allowed students to achieve the O1 to O5 will be addressed aspects related to legislation, pharmaceutical forms of veterinary use, mechanisms of action and public health aspects within the area of veterinary medicines/products. On the other hand, the O6 and O7 goals were achieved through the realization of a working group and the discussion and analysis of case studies on counselling allowing a better integration of the acquired knowledges and its application in the context of Community Pharmacy and/or Veterinary Pharmacy.

4. MAIN BIBLIOGRAPHY

Principal Bibliography:

Spinosa, H. S.; Górnaiak, S. L.; Bernardi, M. M. *Farmacologia Aplicada à Medicina Veterinária*. 2017, 6ª edição, Guanabara Koogan.

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The Merck Veterinary Manual. 2017, 11th edition online at: <http://www.merckvetmanual.com/>

Farmacopeia Portuguesa – IX Edição.

“Lecture notes” (2021/2022).

Recommended Bibliography:

Wanamaker, B. P.; Massey, K. **Applied Pharmacology for Veterinary Technicians**. 2008, Elsevier Science.

Hardee, G. E.; Baggo, J. D. **Development and Formulation of Veterinary Dosage Forms Drugs and the Pharmaceutical Sciences**. 1998, 2nd edition, CRC Press.

Drugs and the pharmaceutical sciences - Vol. 17: Jack Blodinger, **Formulation of Veterinary Dosage Forms**. 1983, Marcel Dekker.

Online information sources

- Webpage of Portuguese Veterinary General Division
- Webpage of Veterinary Symposium Apifarma
- Webpage of Symposium Vet
- Webpage of Order of Veterinarians
- Webpage of European Medicines Agency (EMA)
- Webpage of Food and Drug Administration (FDA)

5. TEACHING METHODOLOGIES (INCLUDING EVALUATION)

In the lectures, main methodology will be syllabus exposition with systematization of the most current and relevant aspects, encouraging students to interaction and discussion. In theoretical-practical and tutorial classes, will be analysed articles and official documents of the Portuguese Veterinary General Division, the Symposium Veterinary Apifarma, the Portuguese Pharmacopeia IX and the European Medicines Agency (EMA), related to our contents in lectures, being privileged to interactive discussion with students and the critical spirit in the interpretation and analysis of information. Some theoretical-practical and tutorial classes will be reserved to solve problems through research and to search information for performing a group work about animal diseases.

The final classification of the curricular unit shall result from continuous assessment, in which will be privileged the participation and interaction of students in discussion and analysis of official documents and the topics covered in the classes, the realization of a presentation and discussion of the work in the

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format of poster presentation about animal diseases and also in conducting two written tests and when requested a global test. The weightings of the final grade will be respectively 5%, 10% and 85%. It has been agreed with the students a minimum of 7.5 values (on a scale of 0 to 20), for each evaluation component. The approval of the curricular unit was obtained with the final assessment of 9.5 values (10 values), in a scale of zero to twenty values (0-20).

Students having less than 9.5 in the final assessment or having less than 7.5 points in the final evaluation of some of the evaluation components and their compliance with the frequency scheme for practical classes will be admitted to the exam. The grade of the evaluation of the work presented was left for the exam, keeping the ponderation of 10% of the final grade.

Students covered by special statute that did not appear on sufficient number of classes that enabled continuous evaluation of their performance in the classroom will be evaluated only by the written test and a work involving animal diseases, having respectively a weighting in the final classification of 90% and 10%, respectively.

The improvement of the classification implied an exam, at the examination period provided for this purpose, of all theoretical and theoretical-practical program content.

6. COHERENCE BETWEEN TEACHING METHODOLOGIES AND OBJECTIVES

The teaching methodologies will be consistent with the objectives of the curricular unit. The theoretical lectures with an expositive methodology intended to be participative, were the first approach of the contents in which students were stimulated to ask questions and to make reasoning based on the previous knowledge that they had and were acquiring during the semester in order to achieve the objectives related to knowledge and memorization of concepts. On the other hand, the theoretical-practical and tutorial classes, in which students developed continuous work in the classroom, related to knowledge acquired in lectures allowed development of critical analysis and solving problems, being very important to achieve objectives related to attitudes and behaviours, important to providing veterinary care. The development of a group work allowed students to systematize information about animal diseases, favouring acquisition of specific and general skills.

7. ATTENDANCE

The contact hours for the theoretical-practical classes will be of mandatory attendance and students will be obligated to be in a minimum of 75% of the total hours allocated in the plan of study for this type of classes. Students who exceed the allowed absences and which were not covered by special statute were disapproved and could not perform periodic assessment tests or final exam in the respective academic year.

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8. CONTACTS AND OFFICE HOURS

Ana Raquel Lima

anaraquellima@ipg.pt

[Gab. 5](#)

Office hours: Tuesday: 08:30h-09:30; 12:30h-13:30h

Thursday: 12:30h-13:30h; 16:00h-17:00h

DATE

09 October 2023

SIGNATURES

Professor(s), Area/Group Coordinator or Head of Department signatures

Professor

(signature)

Area/Group Coordinator

(signature)

Assinatura na qualidade de (clicar)

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