

**Clinical and Therapeutic Pharmacology**

Code: 102664  
ECTS Credits: 3

Degree	Type	Year	Semester
2502445 Veterinary Medicine	OB	4	2

### Contact

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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

### Teachers

Margarita Arboix Arzo  
Carles Cristòfol Adell

### Prerequisites

It is recommended that the student has reached the knowledge of the 3rd year subject Pharmacology.

### Objectives and Contextualisation

The subject is scheduled for the second semester of the fourth year of the Veterinary Degree, when knowledge of general pathology and etiology, clinical and diagnosis of the main diseases and syndromes have already been achieved. The student already has a knowledge of the principles of general pharmacology and knows the large groups of medicines, their mechanism of action and the main desired and undesired effects.

### Competences

- Analyse, synthesise and resolve problems and make decisions.
- Apply scientific method to professional practice, including medicine
- Demonstrate knowledge and understanding of the general bases of medical and surgical treatments.
- Demonstrate knowledge of English to communicate both orally and in writing in academic and professional contexts.
- 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.

### Learning Outcomes

1. Analyse, synthesise and resolve problems and make decisions.
2. Apply scientific method to professional practice, including medicine
3. Define the fundamental criteria to establish a pharmacological treatment.
4. Demonstrate knowledge of English to communicate both orally and in writing in academic and professional contexts.
5. Design and interpret clinical tests.
6. Design therapeutic and preventive programs in accordance with animal welfare, animal health and public health standards.
7. Identify and apply therapeutic protocols to the most frequent diseases.
8. Identify and interpret the legislation affecting the prescription and the dispensation of medicines.
9. Identify and interpret the phases of drug development and know the bodies involved in their development and authorisation.
10. Plan support, symptomatic and etiologic pharmacological treatments.
11. Rationally plan the selection of a pharmacological treatment based on the risk vs. benefit ratio in pharmacoconomics and pharmacovigilance.
12. Recognise basic pharmacological criteria for adequate prescription and defend their suitability.
13. Select and apply the adequate drugs for performing euthanasia.
14. Select suitable drugs to control pain.
15. Select suitable drugs to obtain pharmacological containment.

## Content

Clinical pharmacology.

Scientific bases of the response to medications and individualization. Dynamic, kinetic aspects. Modifications due to age, sex, physiology and pathology. Bases of the diagnosis and management of adverse reactions. Polytherapy and drug interactions. Waste. Emerging aspects such as pharmacolomics.

General Therapeutics

It is responsible for introducing the therapeutic aspects that are more likely to recur to any disease (containment, inflammation, analgesia, fluid therapy, antimicrobial, antifungal, antiparasitic, antineoplastics).

## Methodology

Methodology.

Master classes with the active participation of students.

Seminars in smaller groups. The objective is to reinforce some of the concepts that have been developed in theory classes, through practical exercises, as well as the introduction of new concepts.

Self-learning, basically elaborating written works. Students must develop in writing and in groups certain topics proposed by the teacher.

## Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Master class	21	0.84	1, 2, 3, 6, 5, 7, 9, 11, 10, 12, 14, 15, 13
Seminars	4	0.16	1, 2, 3, 6, 5, 7, 8, 9, 11, 10, 12
Type: Autonomous			

Co-evaluation	6	0.24	1, 2, 5, 7, 8, 9, 12
Study	35.75	1.43	1, 2, 3, 5, 7, 8, 9, 11, 10, 12, 14, 15, 13
Written works	7	0.28	1, 2, 3, 6, 5, 7, 9, 11, 10, 12

## Assessment

Evaluation.

Final grade = grade - penalties.

Grade = Test (50%) + Written works (30%) + Co-evaluation (20%)

Individual grade: Test

Collective grade: written work and co-evaluations done in groups of about 5 people, always the same throughout the course.

Test

- required
- Minimum result to average with written works: 3.3 out of 10
- 60-75 questions
- 4 alternatives only 1 certain
- Correct question: +1
- Incorrect question -1/3
- Question not answered -1/4

Written works

- Not mandatory
- Evaluation by other students and by the teacher
- All students have the same grade

Co-evaluations

- Not mandatory
- Evaluation of work done by other students
- Evaluation of the coevaluation by the teacher
- All the components of the group have the same note

Penalties

- Seminars:  $2^s/10$  (s = unattended seminars;  $s \geq 1$ )
- Delayed works  $2^d/10$  (d = delay in days;  $d \geq 1$ )

Passed subject

Final grade  $\geq 5$

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Second chance for individual grade

- Short written questions (6-10)
- Minimum result to average with written works: 3.3 out of 10

Second chance for written works

- Not available
- The previously obtained grades are used
- Averaging as indicated above

Passed subject

Final grade  $\geq 5$

## Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Co-evaluation	20%	0	0	1, 2, 5, 7, 8, 9, 12
Test	50%	1.25	0.05	1, 2, 3, 4, 6, 5, 7, 8, 9, 11, 10, 12, 14, 15, 13
Written works	30%	0	0	1, 2, 3, 6, 5, 7, 9, 11, 10, 12

## Bibliography

### Bibliography

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- Plumb DC. Plumb's Veterinary Drug Handbook. Wiley-Blackwell.
- Riviere JE and Papich MG. Veterinary Pharmacology and Therapeutics. Wiley-Blackwell.
- The Veterinary Clinics of North America - Small Animal Practice (col·lecció).
- Withrow SJ, Vail DM and Page R. Small Animal Clinical Oncology. Saunders.
- WEB
- Agencia Española de Medicamentos y Productos Sanitarios (<http://www.aemps.es/>): fitxa tècnica dels medicaments aprovats a l'Estat.
- European Medicines Agency (EMA) <http://www.ema.europa.eu/>