

COURSE DESCRIPTION

COURSE DETAILS

Title (of the course): **ANESTESIOLOGÍA Y CUIDADOS INTENSIVOS**

Code: 101478

Degree/Master: **GRADO DE VETERINARIA**

Year: 4

Name of the module to which it belongs: CIENCIAS CLÍNICAS Y SANIDAD ANIMAL

Field: ANESTESIOLOGÍA Y PATOLOGÍA QUIRÚRGICA

Character: OBLIGATORIA

Duration: FIRST TERM

ECTS Credits: 4.5

Classroom hours: 45

Face-to-face classroom percentage: 40.0%

Study hours: 68

Online platform:

LECTURER INFORMATION

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PREREQUISITES AND RECOMMENDATIONS

Prerequisites established in the study plan

Students must have passed the subjects of Clinical Propedeutics, Pharmacology and Pharmacy.

Recommendations

It is advisable to study Surgical Pathology, Pharmacotherapy and Internal Medicine simultaneously.

COURSE DESCRIPTION

INTENDED LEARNING OUTCOMES

CU1
CU2
CU3
CT1
CT2
CT3
CT4
CT5
CT6
CT7
CT8
CE34

OBJECTIVES

1. Anesthesia, analgesia and animal resuscitation
2. Evaluate the patient's medical history and determine the degree of anesthetic risk
3. Design the anesthetic protocol based on the patient's clinical history
4. Perform the basic techniques associated with anesthesia: intravenous infusion, endotracheal intubation, monitoring anesthesia, fluid therapy, management of the anesthetic machine, management of infusion pumps and perfusors
5. Interpret the information provided by the monitoring and know how to act accordingly before the complications and anesthetic emergencies
6. Execute an anesthetic protocol in patients with low anesthetic risk in dogs and cats
7. Horse anesthesia management and guidelines. Know how to perform anesthesia in field conditions
8. Management and guidelines for anesthesia of exotic and wild animals
9. Work as a team in the operating room in real clinical situations
10. Address basic intensive care in small animals
11. Know specific legislation, rights and duties of the veterinarian. Ethical principles of action
12. Management of enteral and parenteral nutrition techniques
13. Management of oxygen therapy techniques
14. Management of mechanical ventilation techniques
15. Explain animal welfare and the corresponding responsibilities of owners, operators, veterinarians and other people in charge of animal care (objective recommended by the World Organization for Animal Health in veterinarian training).

CONTENT

1. Theory contents

The subject is divided into four thematic blocks:

- In the first block, the concepts related to "Anesthetic premedication and pain control" are studied.
- In the second thematic block, the drugs and techniques of "General Anesthesia" and the "Most frequent anesthetic complications" are studied.
- In the third thematic block, the anesthetic considerations in different animal species and in various



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COURSE DESCRIPTION

pathophysiological situations are studied, "Special Considerations".

- In the fourth block, the most important techniques to be used in the "intensive care" unit are studied. The topics that will be taught in each of the blocks are detailed below:

BLOCK 1: ANESTHETIC PREMEDICATION AND PAIN CONTROL. -Item 1. Anesthetic risk. Clinical phases of anesthesia -Theme 2. Fluid therapy I -Theme 3. Fluid therapy II -Item 4. Sedation -Unit 5. Physiopathology of pain -Item 6. Pain control. Opiates -Item 7. Pain control. NSAID's -Item 8. Pain control. Local anesthetics and loco-regional anesthesia and analgesia techniques

BLOCK 2: GENERAL ANESTHESIA -Subject 9. Injectable anesthesia -Item 10. Anesthetic machine and equipment -Subject 11. Inhalation anesthesia -Unit 12. Neuromuscular blockers and mechanical ventilation -Unit 13. Balanced anesthesia -Unit 14. Anesthetic complications I -Unit 15. Anesthetic complications II - Topic 16. Anesthetic considerations in the cat -Unit 17. Anesthetic considerations in the horse

BLOCK 3: SPECIAL CONSIDERATIONS - Topic 18. Anesthetic considerations in pediatric and geriatric animals - Topic 19. Anesthetic considerations in animals with cardiorespiratory pathologies - Topic 20. Anesthetic considerations in animals with neurological pathologies - Topic 21. Anesthetic considerations in animals with digestive pathologies

BLOCK 4: INTENSIVE CARE -Subject 22. Hospital management I -Item 23. Hospital management II -Item 24. Lines of research group CTS 373 - Experimental anesthesiology

2. Practical contents

- Medium groups (25 students): Monitoring (2 hours), anesthetic machine (2 hours), small mammals (1.5 hours), exposure (3 hours)
- Small groups (12 students): Complications and cardiorespiratory resuscitation (2.5 hours), intubation and catheterization (1.5 hours), clinical cases and pain monitoring (2.5 hours)
- Very small groups (6 students): Clinical anesthesia practices (5 hours)

SUSTAINABLE DEVELOPMENT GOALS RELATED TO THE CONTENT

Good health and well-being
Quality education
Climate action

METHODOLOGY

Methodological adaptations for part-time students and students with disabilities and special educational needs

The particular considerations of students taking the Part-Time Degree or students with disabilities and special educational needs will be taken into account.

Face-to-face activities

Activity	Large group	Medium group	Small group	Total
<i>Clinical practice</i>	-	9	10.5	19.5
<i>Lectures</i>	25	-	-	25
<i>Tutorials</i>	-	-	0.5	0.5
Total hours:	25	9	11.0	45.0

COURSE DESCRIPTION

Off-site activities

Activity	Total
Group work	10
Information search	10
Reference search	8
Self-study	40
Total hours	68

WORK MATERIALS FOR STUDENTS

Case studies - *Moodle*

Coursebook - *Moodle*

Exercises and activities

Oral presentations - *Moodle*

Placement booklet - *Moodle*

References - *Teaching guide of the signature*

EVALUATION

Intended learning	Case study/clinical case discussion/scientific work discussion	Exams	Oral Presentation	Real and/or simulated tasks
CE34	X	X	X	X
CT1	X	X	X	X
CT2	X		X	X
CT3	X	X	X	X
CT4	X	X	X	X
CT5	X		X	X
CT6		X	X	
CT7			X	
CT8	X	X	X	X
CU1		X	X	
CU2	X		X	
CU3	X		X	X
Total (100%)	10%	60%	10%	20%
Minimum grade	0.5	4.2	0.5	1

(*)Minimum mark (out of 10) needed for the assessment tool to be weighted in the course final mark. In any case, final mark must be 5,0 or higher to pass the course.

COURSE DESCRIPTION

Method of assessment of attendance:

Attention to the practices and the performance of the exposure work, as well as its exposure is mandatory. The result of the theoretical exam will not be assessed if there is a lack of attendance at 3 or more practices. The not attending a practice and/or not carrying out the work-exhibition subtracts 2 points from the final grade.

General clarifications on instruments for evaluation:

It is obligatory for the complete formation of the student, the assistance to all the practices of the subject. Failure to attend a practice will subtract 2 points from the final grade. The practices of the subject are valued with a maximum of 30% of the overall grade. In the practices, attitude, participation and knowledge will be evaluated. The evaluation of the teamwork-presentation is qualified with a maximum of 10% of the overall grade. Its completion is mandatory. Failure to carry out the work will subtract 2 points from the final grade. The theoretical written test represents 60% of the final grade. The result of the test type exam will not be valued if the student has missed 3 or more practices. The theoretical test is passed with a score of 6 points out of 10.

The grades obtained in the practices and in the group work are saved indefinitely, not being necessary to repeat them.

Clarifications on the methodology for part-time students and students with disabilities and special educational needs:

The particular considerations of students who study the Part-time Degree and with special educational needs will be taken into account.

Clarifications on the evaluation of the extraordinary call and extra-ordinary call for completion studies:

If in the ordinary calls of the subject the test type has not been passed but the student has done the practices and the group work, for the extraordinary calls the mark of the practices and the work will be kept, not being necessary to repeat them (they are saved indefinitely).

Qualifying criteria for obtaining honors:

The mention of Honors may be awarded to students who have obtained a grade equal to or greater than 9.0. Their number may not exceed five percent of the students listed in the corresponding record.

BIBLIOGRAPHY

1. Basic Bibliography

- Muñoz, Granados, Navarrete (2019). Manual de anestesia y cuidados intensivos. Elsevier.
- Cabezas M, García de Carellán A (2023). Casos clínicos de anestesia y analgesia en pequeños animales.
- Sández Cordero I (2019). Manual clínico de monitorización anestésica en pequeños animales.
- Álvarez I, Canfrán S, Salazar V (2016). Guía práctica de anestesia en perro y gato.
- Doherty T and Valverde A (2006). Manual of Equine Anesthesia and Analgesia. Blackwell Publishing.
- Dugdale A (2011). Veterinary anaesthesia. Principles to practice. Wiley-Blackwell.
- Duke-Novakovski T, de Vries M, Seymour C (2016). BSAVA Manual of Canine and Feline Anaesthesia and Analgesia (3ª edición).
- Egger C, Love L and Doherty T (2014). Pain management in Veterinary Practice. Wiley Blackwell.
- Grimm KA, Lamont LA, Tranquilli WJ, et al. (2017). Veterinary anesthesia and analgesia. The fifth edition of Lumb & Jones. Wiley & Sons.
- Hall (1994). Anaesthesia of the cat. Baillière Tindall.
- Hall and Clarke (2001). Veterinary Anaesthesia. 10ª edición. WB Saunders.
- Muir W and Hubbell J (2009). Equine anesthesia. Monitoring and emergency therapy. Elsevier Saunders.

COURSE DESCRIPTION

- Rioja E, Salazar V et al. (2015). Manual de anestesia y analgesia de pequeños animales. Servet.
- Taylor (2001). Anestesia en equinos. Interamericana.
- Thurmon (2003). Fundamentos de Anestesia y Analgesia en Pequeños Animales. Masson.
- Campoy L, Read M. Small animal regional anesthesia and analgesia. Wiley-Blackwell.
- Otero P, Portela D (2017). Manual de anestesia regional en animales de compañía.
- Otero P, Portela D (2019). Manual of Small Animal Regional Anesthesia: Illustrated Anatomy for Nerve Stimulation and Ultrasound-Guided Nerve Blocks

CUIDADOS INTENSIVOS

- Battaglia. (2001). Small Animal Emergency and Critical Care. WB Saunders.
- Carrillo Poveda JM, Sopena Juncosa JJ, Redondo García JI, Rubio Zaragoza M. (2006) Manual de maniobras útiles en Medicina y Urgencias. Inter-Médica.
- Lesley King and Richar Hammond (2001). BSAVA Manual de Urgencias y Cuidados Intensivos.
- Fragio C (2011). Manual de urgencias en pequeños animales. Multimédica ed.

2. Further reading

- Welch Fossum T (2008). Cirugía en pequeños animales. Elsevier
- Muñoz Rascón P, Morgaz J, Galán A (2015). Manual Clínico del perro y el gato, 2ª ed. Elsevier

COORDINATION CRITERIA

Common evaluation criteria

Common learning outcomes

Tasks deadlines

Tasks performance

SCHEDULE

Period	Clinical practice	Lectures	Tutorials
1# Fortnight	2,0	4,0	0,0
2# Fortnight	2,0	4,0	0,5
3# Fortnight	4,0	4,0	0,0
4# Fortnight	4,0	4,0	0,0
5# Fortnight	4,0	3,0	0,0
6# Fortnight	2,0	3,0	0,0
7# Fortnight	1,5	3,0	0,0
Total hours:	19,5	25,0	0,5

COURSE DESCRIPTION

The methodological strategies and the evaluation system contemplated in this Course Description will be adapted according to the needs presented by students with disabilities and special educational needs in the cases that are required.