

**Veterinary Hospital Rotation**

Code: 102682  
ECTS Credits: 9

Degree	Type	Year	Semester
2502445 Veterinary Medicine	OB	5	0

**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**

Anna Maria Bassols Teixidó

Yvonne Espada Gerlach

Jordi Franch Serracanta

Félix Angel García Arnás

Josep Pastor Milán

Maria Teresa Peña Giménez

Marta Prades Robles

Martí Pumarola Batlle

Jordi Serratosa Vilageliu

Sònia Añor Torres

Albert Lloret Roca

María Carmen Díaz-Bertrana Sánchez

Jaume Martorell Monserrat

Cristina Costa Farré

Lluís Ferrer Caubet

Katrin Steffanie Rappe

Camino García-Morato Fernández-Baíllo

Ricard Adán Milanés

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Carlos Torrente Artero

Cristian de la Fuente Hernández

Eduard José Cunilleras

Marta Leiva Repiso  
Anna Maria Andaluz Martinez  
Marta Planellas Bachs  
Lara Armengou Ruiz  
Xavier Moll Sánchez  
Laura Fresno Bermejo  
Luis Bosch Lozano

## **External teachers**

Ricard Adan Milanes

## **Prerequisites**

Since this mandatory fifth year course is inclusive, it is required that the student has passed at least 210 ECTS to enroll in the Clinical HCV Rotation.

Likewise, it is recommended to have passed the mandatory subjects of the fourth year "Animal Medicine and Surgery of companion animals I", "Medicine and Animal Surgery of companion animals II", and "Medicine and Surgery of horses".

## **Objectives and Contextualisation**

The subject "CLinical HCV rotation" along with the "Public Health Rotation" are compulsory subjects within the subject "Practical Rotation" of the fifth year Veterinary course. The "Clinical HCV rotation" has an integrating and professional nature in the field of Veterinary Medicine.

The programmed activities and training objectives of the subject are aimed at introducing Bachelor of Veterinary students to the professional reality in the veterinary animal companion clinic, and to a lesser extent that of exotic and equine animals.

The training objectives of the subject are:

- Acquire the capabilities of solving clinical cases.
- To know the different fields and specialties of veterinary medicine in the species that are treated individually.
- Acquire the capacity for synthesis and exposure necessary to carry out the professional activity in the field of veterinary medicine.

This subject includes activities carried out in English, identified in this teaching guide as DA (Teaching in English). This English teaching will be performed in 2 of the 4 previous seminars; and the student will have the option to present cases in English in 2 of the subsequent seminars.

## **Competences**

- Analyse, synthesise and resolve problems and make decisions.
- Apply scientific method to professional practice, including medicine
- 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.
- Comunicar la informació obtinguda durant l'exercici professional de manera fluïda, oralment i per escrit, amb altres col·legues, autoritats i la societat en general.
- Demonstrate knowledge and understanding of standards and laws in the veterinary field and regulations on animals and their trade.
- Demonstrate knowledge and understanding of structural and functional disorders of the animal organism.
- 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.
- Properly apply the principles of sterilisation of surgical equipment and the principles of surgical asepsis.
- Recognise ethical obligations in the exercise of responsibilities in terms of the profession and society.
- 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 any measures needed to restrain animals: protecting the veterinarian without causing them injury or stress, and be aware of the risks involved in handling animals.
3. Apply ethical values that govern the behavior of veterinarians in clinical practice in relations with other veterinarians.
4. Apply knowledge of pathophysiology applied to medical and surgical diseases during clinical discussions.
5. Apply methods of cardiopulmonary resuscitation in emergency conditions.
6. Apply scientific method to professional practice, including medicine
7. Apply specific knowledge of horse sedation to perform examinations.
8. Apply suitable euthanasia methods in small animals and equines.
9. Communicate information obtained during professional exercise in a fluid manner, orally and in writing, with other colleagues, authorities and society in general.
10. Complete basic inquiries in which the student makes a general clinical examination, applies the suitable diagnostic protocol, produces a diagnosis and recognises the correct treatment and prognosis in small animal and equines.
11. Conduct X-rays in the most common positions to obtain radiographic images of the most frequent pathological processes in the treatment of small animals and equines.
12. Correctly apply ethical values in decision-making on performing diagnostic procedures, medical or surgical treatments, or any clinical procedure, bearing in mind the rights of the animals and their owners.
13. Define the bases of complementary diagnostic techniques (MR, IMR, endoscopy...) and their indications
14. Define the problems found in the physical examination or clinical history of an animal, and produce a list of problems, differential diagnosis and diagnostic protocol.
15. Demonstrate knowledge of the etiology, etiopathogeny, diagnosis and treatment of the main medical and surgical diseases in small animals and equines being attended to at the Hospital Clínic Veterinari or to which reference is made during clinical discussions.

16. Describe the regulations on the sale of animals and the actions and responsibility of the veterinarian (pre and post purchase reports and examinations of equines, small animals and exotic animals).
17. Diagnose and solve obstetric and post-birth problems in small animals and equines.
18. Dispense and administer fluid and drugs to hospitalised animals.
19. Distinguish the limitations on the use and prescription of the most frequently used drugs in the medication and surgery of small animals and equines.
20. Distinguish the methods of hospital nutrition and methods of administration in small animals and equines.
21. Effectively help with surgical interventions.
22. Evaluate whether the concepts of asepsis-antisepsis, preparation of surgery and preparation of the surgical patient and the material and instruments to be used have integrated properly, along with their application to the operating theatre as well as the correct use and manipulation of surgical instruments.
23. Fill in forms applying for biopathological and histopathological analysis of samples from pets and equines.
24. Have basic knowledge of the profession, and in particular of the organisation and functions of professional practice.
25. Identify the conditions in which euthanasia is the only possible option, or the most suitable, in small animals and equines and appropriately propose this to the owners
26. Interpret control and surveillance systems in ICU, hospitalisation and surgery.
27. Interpret the results of basic diagnostic tests (analytical, X-rays, echographies, PCR, serology...) and conduct clinical discussions.
28. Make basic visits to young animals and foals and make suitable recommendations for vaccination and deworming.
29. Monitor animals during surgical and/or anaesthetic recovery.
30. Monitor animals post-operation.
31. Objectively evaluate pain in sick animals.
32. Obtain blood and urine samples from different animal species and process them for sending to the laboratory.
33. Perform complete protocolled physical examinations and detect any disorders.
34. Perform cytology, fixate and stain cells, understand the indications for carrying them out and defend the interpretations.
35. Perform hemograms and biochemical tests with emergency teams and defend the interpretation.
36. Perform pre-anaesthesia estimations of surgical patients.
37. Place endovenous catheters in small animals and equines.
38. Practise anaesthesia and sedations in simple cases, under the supervision of the responsible lecturer, in small animals and equines.
39. Practise basic procedures in emergency situations to stabilise critical animals.
40. Produce simple surgical reports and reports on diagnostic techniques performed on patients.
41. Properly apply the acquired knowledge on pain sedation and therapy.
42. Properly calculate dosages of the most common medicines applied to the medication and surgery of small animals and equines, and properly use vademecums.
43. Properly fill in medication and follow-up forms on hospitalised animals and be able to monitor their evolution.
44. Properly fill in reports with data on anamnesis and the results of clinical examinations.
45. Properly interpret X-rays and echographies of simple pathological processes in the treatment of small animals and equines.
46. Properly prepare animals for echographies and have a general idea of the positioning of the probe in the most frequent explorations of small animal and equines.
47. Properly use all measures of radiographic protection
48. Recognise personal limitations and know when to ask for professional advice and help.
49. Recognise the disorders that require urgent assistance (emergencies).
50. Recognise the moment when a case needs to be passed to a specialist for diagnosis and/or treatment.
51. Secure animals before examinations, treatment or sample taking, causing the minimum possible stress.
52. Treat simple wounds adequately (cleansing, debridement and additional cures) and know how to apply dressings.
53. Use anaesthesia and monitoring apparatus and know how to choose the suitable systems depending on the species and/or body weight.

54. Use knowledge of the identification, treatment and prevention of medical and surgical problems associated to the male and female reproduction apparatus in small animals and equines.

## Content

Introductory session on the subject (1h): description of the structure of the HCV Rotation and the evaluation system.

### PROGRAM OF SEMINARS (15h)

A. Introductory seminars prior to the practical clinical HCV rotation:

- Clinical nutrition and ICU (2h): practical cases of obesity management, enteral and parenteral nutrition.
- Clinical biochemistry (2h. DA): structure, operation, basic equipment, biochemical parameters useful for the diagnosis and definition of profiles. The three phases of the analytical process: preanalytical, analytical phase and post-analytical phases.  
Identification of the critical points in each of the phases that can compromise the quality of the result.
- Etiology (2h): major alterations of behavior in pet animals: aggression by fear, aggressiveness due to dominance, separation anxiety. Practical cases.
- Interpretation of routine laboratory testing-clinical cases (2h; DA): main patterns of the most common alterations in real cases, hematology, biochemistry and urine analysis.

B. Clinical case discussion seminars (3 hours): After completing the Clinical HCV rotation, students (groups of 2-3 students) will do a brief oral presentation of one of the actual clinical cases in which they have actively participated.

Students will have the option to present the case in English. See in the assessment the possible bonus for oral presentation in English (DA).

C. Seminars for discussion of cases related to ethics and legislation (1h): upon completion of the clinical HCV rotation, students (groups of 5-6 students) will do a brief oral presentation of one of the situations with clients and veterinarians who involve ethical dilemmas or situations in which current legislation must be consulted.

D. Seminar clinical pathology-mystery case (2h): a clinical case selected during clinical HCV rotation (groups of 2-3 students) will be worked on where the cytology or hematology (blood smears) have been used for the diagnosis.

These cases will be shared with the rest of the groups as mystery case in the microscope. Students will have the option of presenting the written report of the case in English. See in the assessment the possible bonus to do the case in English.

E. Seminar on the interpretation of hematological and cytologic preparations (1h): at the end of the clinical HCV rotation, students will hold a specialized seminar to discuss all the hematological and cytological preparations that students have evaluated previously independently.

### PROGRAM OF PRACTICAL CLINICAL ROTATION (142h)

Students will complete in 4 consecutive weeks and 5 days (they will begin on a Thursday and end on a Monday), training during clinical rotation.

All students will be trained for the same HCV services, which are detailed below:

- Surgery and post-surgery care and anesthesia
- General medicine consultations and internal medicine
- Dermatology
- Equine medicine and surgery

- Exotics
- Imaging
- Neurology
- Ophthalmology
- Traumatology
- Intensive medicine / ICU

It is shown in table 1, the number of shifts in the afternoon, hours and total number of hours based on each service.

Table 1. Number of shifts, hours and total number of hours based on the HCV service.

HCV service	Number of shifts	Schedule	Total number of hours
Surgery, post-surgery care and anesthesia	1	14-20 h	6
Dermatology	1	15-20 h	5
Equine medicine and surgery	1	14-21 h	7
Exotics	1	16-20 h	4
Imaging	2	14-20 h	12
General medicine and internal medicine	3	14-21 h	21
Neurology	1	15-20 h	5
Ophthalmology	1	16-20 h	4
Traumatology	1	14-20 h	6
Emergency and intensive medicine/ICU	2	14-21 h	14

ICU: Intensive care unit

## Methodology

- The method of teaching-learning of the students in this subject is SUPERVISED for professors and high-level collaborators with the assistance of the Fundació Hospital Clínic Veterinari (senior veterinarians, residents and interns).

- The clinical rotation will be programmed in 4 consecutive weeks and 5 days in which each student will complete hospital procedures in all services previously described.

- The clinical rotation is performed in the facilities of HCV and only 2 hours at *vivers 3 pins* to perform neutering

Table 2 shows the number of shifts that are done during the clinical rotation, timetable and total number of hours.

Table 2. Number of shifts during clinical rotation, timetable and total number of hours.

Type of shifts (schedule)	Number of shifts	Duration (hours)	Total number of hours
Afternoon during week (14-20h)	4	6	24
Afternoon during week (15-20h)	2	5	10
Afternoon during week (16-20h)	2	4	8
Afternoon during week (14-21h)	6	7	42
Night (20-8h)	3	12	36
Saturday (8 a 20h)	1	12	12
Sunday (8 a 4pm)	1	8	8
	1	2	2

Viver 3 pins  
during week-  
OHE-castrations  
(16-18h o  
18-20h)

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TOTAL	21	-	142
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- As described above, the training activities consist of:

1) Introduction to the organization and evaluation of the subject

2) Four seminars in groups of up to 24 students that complement supervised learning and who have previously performed 4 weeks and 5 days of Clinical Rotation.

2.1) Clinical Nutrition: 2h

2.2) Clinical Biochemistry: 2h

2.3) Ethology: 2h

2.4) Basic analytical interpretation: 2h

3) Practical clinical rotation: all students will go through the same services as described above

4) independent study and self-learning or peer learning in veterinary clinical pathology performed during the HCV rotation (4 weeks and 5 days): observation of hematological and cytological cases in a microscope that they have available in the room of Students of the HCV with a Wi-Fi camera to be able to see the preparations with groups.

5) Four seminars in groups of up to 24 students that take place after the 4 weeks and 5 days of Clinical Rotation:

5.1) Discussion seminars on clinical cases: after performing hospital practices in sessions of up to 24 students, it consists of public exhibitions in groups of 2-3 students to describe a case in which they have participated, and allow discussion and resolution of doubts with the entire group. There will be two sessions of 1.5h each one.

5.2) Seminar discussion of cases related to ethics and legislation (1h): at the end of the hospital practices rotation, students (groups of 5-6 students) will present problematic cases that they have observed first hand or as real situation due to conflict with a client or a veterinarian.

5.3) Specialized seminar on interpretation of hematology and cytology (2 hours): a clinical case selected during the rotation (groups of 2-3 students) will be worked on where the cytology or hematology (blood smears) have been used for the diagnosis. They will share with the rest of the students as mystery case in the microscope.

5.4) Seminar on the interpretation of hematological and cytologic preparations (1h): at the end of the HCV rotation, students will hold a specialized seminar to discuss all the hematological and cytological preparations that students have evaluated previously independently.

- The attendance to all the activities is mandatory and will be controlled by the professors participating in the supervised teaching and in seminars. This attendance is an indispensable requirement to pass the subject. The possible exceptions to this rule must be justified and will be valued by the person in charge of the subject.

- In Moodle the subject will be centralized: (1) the delivery of work to be exhibited in the seminars of clinical cases, (2) the organization and normative evaluation of the Clinical Rotation, (3) complementary material that professors deem appropriate.



(4) the inscription to the practical at *vivers 3 pins* (castrations)

- Students will be divided at the beginning of the course in 6 Blocks (Groups) of up to 24 students according to their choice of optional subjects. In blocks 1,2 and 3, students who have enrolled elective subjects of the "Health and Production" profile will be assigned; in Blocks 4, 5, 6 students who have enrolled elective subjects of the "Medicine and Surgery" profile.

STUDENTS ARE RESPONSIBLE TO VERIFY THE SCHEDULE OF THE FIRST AND SECOND SEMESTER OF FIVE YEAR TO DETECT THE POSSIBLE OVERLAP IN BETWEEN PROGRAMME ACTIVITIES (AND OUTSIDE) OF THE OPTIONAL SUBJECTS AND THE ACTIVITIES PROGRAMMED IN THE HCV ROTATION. In case of coincidence, the activity programmed in the core subject "Rotatorio Hospital Clínic Veterinario" prevails in front of the activities programmed in the optional subjects.

THE STUDENT IS RESPONSIBLE TO SHOW ASSISTANCE TO ALL ACTIVITIES (4 previous seminars, 4 weeks and 5 days HCV rotation and 4 subsequent seminars). THE ASSISTANCE CONTROL AT ALL ACTIVITIES WILL BE USING THE STUDENT PORTFOLIO.

IN THIS PORTFOLIO, THE STUDENT WILL RECEIVE THE SIGNATURE OF THE RESPONSIBLE FOR EACH SEMINAR OR ACTIVITY LOG IN THE HCV ROTATION, AND WILL GIVE A BRIEF DESCRIPTION OF THE PROCEDURES CARRIED OUT AND PATIENTS TREATMENT PERFORMED ON EACH SHIFT.

- THE STUDENT PORTFOLIO WILL BE GIVEN DURING THE FIRST SEMINAR. THE STUDENT IS IN CHARGE TO DELIVER THE PORTFOLIO DURING THE LAST SEMINAR TO THE SUBJECT RESPONSIBLE.

The total attendance hours are 158h. The remaining hours will be devoted to seminars prior to hospital practice (8h), and to seminars discussing clinical cases after hospitalizations (7h).

Clinical case seminars consist of public exhibitions with 2-3 students, which are expected to describe a case in which they have participated, and allow discussion and resolution with the entire group.

Total 142 + 1 + 8 +7 = 158 hours face-to-face

## Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
1. Introductory session about HCV rotation	1	0.04	1
2. Seminar about clinical nutrition and ICU	2	0.08	20, 39
3. Seminar Clinical Biochemistry	2	0.08	35, 32
4. Seminar Clinical etology	2	0.08	48
5. Seminar interpretation of routine laboratory tests	2	0.08	35, 27
6. Seminar clinical cases	3	0.12	1, 4, 6, 50, 48
7. Seminar of ethical cases and legislation	1	0.04	48
8. Practical microscope room of clinical pathology cases (mystery cases)	2	0.08	34, 35
9. Practical multihead microscope: hematological and cytological preparations student room	1	0.04	34, 35, 27
Type: Supervised			

HCV rotation	142	5.68	21, 7, 42, 37, 10, 14, 13, 16, 17, 19, 18, 34, 35, 11, 28, 45, 43, 44, 38, 39, 46, 33, 40, 36, 50, 49, 51, 52, 47, 53, 54, 22
Type: Autonomous			
Preparation of clinical cases	8	0.32	1, 4, 6, 48
Study and self independent learning	58.2	2.33	21, 4, 7, 42, 37, 10, 14, 13, 16, 17, 19, 18, 34, 35, 11, 28, 45, 43, 44, 38, 39, 46, 33, 40, 36, 50, 49, 51, 52, 47, 53, 54, 22

## Assessment

The assessment will consist of:

- 60% will correspond to the evaluation of 4 weeks and 5 days in HCV rotation. The assessment will be carried out as follows: 30% student's portfolio, 30% attitude, participation and knowledge (evaluated by ICU, internal medicine and diagnostic imaging services)

- The remaining 40% of the final mark of the subject is distributed between the clinical case seminar (20%), the bioethics and legislation seminar (10%) and seminars of clinical pathology-mystery case and preparations for hematology / cytology (10%).

The mystery case seminar (groups of 2-3 students, written format) and will count 90% of the mark and 10% of the mark will be valued with the seminar of hematological and cytological preparations.

- The presentation of the clinical case, the case of bioethics and cases of hematology / cytology are essential to overcome the subject. If the case is not presented in any of these 3 seminars the student will not pass the subject.

- Failure to attend any of the previous or later seminars or any of the 4-week and 5-day HCV rotations without justification will imply the penalty in proportion to absences: 0.5 points less than the final grade for each seminar, and 0.25 points less than the final mark for each practice shift in HCV.

IS THE RESPONSIBILITY OF THE STUDENT TO PROVIDE ASSISTANCE TO ALL ACTIVITIES (4 previous seminars, 4 weeks and 5 days HCV and 4 subsequent seminars) THROUGH THE PORTFOLIO IN WHICH THE SIGNATURE OF THE RESPONSIBLE OR COLABORATOR OF EACH SEMINAR OR BACK 'HCV.

IN THE EVENT THAT THE STUDENT LOSS THE PORTAFOLI, WE WILL NOT BE PROVIDED BY THE STUDENT AT THE ACTIVITIES AND WILL NOT EXCEED THE SUBJECT.

English assessment:

The assessment of English computes exclusively at the level of the mark obtained in the activity carried out in this language. The bonus rate is established between "no bonus" - 10% bonus on the content note. As an orientation, the following general criteria are established:

- Do not receive bonus: little or very little oral communicative ability or written in English. The vocabulary is poor and not understandable.

- 5% of the note on contents: reasonable oral communicative ability or written in English. It is understood what he/she wants to explain although he/she makes many mistakes and his/her vocabulary is limited.

- 10% of the note on contents: good oral communicative ability or written in English.

The teacher will be the one who ultimately will mark the final bonus that the student will receive (between the "no bonus" range - 10% on the content note).

## Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Evaluation of the HCV rotation: 30% student portfolio and 30% according to the rubric that evaluates attitude, participation and knowledge	60%	0	0	21, 4, 7, 41, 12, 8, 3, 2, 5, 42, 37, 10, 14, 13, 15, 16, 17, 20, 19, 18, 34, 35, 11, 28, 25, 45, 27, 26, 30, 29, 32, 43, 44, 23, 38, 39, 46, 33, 40, 36, 50, 49, 51, 52, 47, 53, 54, 31, 22
Oral presentation in groups of 5-6 students, seminars of bioethical cases and legislation	10%	0.25	0.01	1, 9, 48
Oral presentation of the clinical case in groups of 2-3 students	20%	0.3	0.01	1, 4, 6, 9, 48, 24
Writing mystery case in groups of 2-3 students	10%	0.25	0.01	1, 6, 9, 34, 35

## Bibliography

There is no specific bibliography, it is recommended to consult the bibliography of the relevant core subjects.

Some interesting web links:

[www.ivis.org](http://www.ivis.org)

[www.pubmed.org](http://www.pubmed.org)