

Integrated Animal Health Practical

Code: 102616
ECTS Credits: 6

Degree	Type	Year	Semester
2502445 Veterinary Medicine	OB	4	A

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.

Contact

Name: Margarita Martín Castillo
Email: Marga.Martin@uab.cat

Use of Languages

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

Teachers

Maria Lourdes Abarca Salat
Francisco Javier Cabañes Sáenz
Jordi Casal Fàbrega
Joaquín Castellà Espuny
Gemma Castella Gómez
Mariano Domingo Álvarez
David Ferrer Bermejo
Alberto Marco Valle
Enrique María Mateu de Antonio
Antonio José Ramis Salvá
Francesc Xavier Mora Igual
Joaquim Segalés Coma
Natàlia Majó Masferrer
Raquel Cortés Larena
Alberto Oscar Allepuz Palau
Luis Jesus Canela Urizar
Joan Aparicio Martí
Joan Ramon Wennberg Rutllant
Laila Darwich Soliva
Ana Maria Ortuño Romero

Prerequisites

It is highly recommended that you should previously have studied the following subjects: Morphology I, Morphology II, Parasitology, Microbiology, Microbiology and Applications, Pathology and Exploratory Methods, Animal Health I, Animal Health II, Animal Health III (in the same course).

Objectives and Contextualisation

This annual subject is located in the 4th year of the degree and it includes the practical contents of the subjects Animal Health I, II and III.

The training objectives are that the student knows, applies and relates the results obtained from necropsies and laboratory tests to reach conclusions about the ailments and problems that affect the animals. So, the student has to be able to:

- Recognize and diagnose the different types of injuries and their association with pathological processes
- Recognize and diagnose infectious and parasitic diseases of veterinary interest including diagnosis and fight
- Propose measures to guarantee health in animal groups, including wild animals, to obtain the maximum economic return in a socially, ethically and sanitarly acceptable way.

Competences

- Analyse, synthesise and resolve problems and make decisions.
- Apply scientific method to professional practice, including medicine
- 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 of English to communicate both orally and in writing in academic and professional contexts.
- 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.
- Draft and present satisfactory professional reports, always maintaining the required confidentiality.
- Perform a necropsy, including a record of the injuries found, sample taking and storage and posterior transport.
- Work effectively in single or multidisciplinary teams and show respect, appreciation and sensitivity for the work of others.

Learning Outcomes

1. Analyse, synthesise and resolve problems and make decisions.
2. Apply and interpret the commonest laboratory techniques to diagnose and prevent infectious and parasitological diseases in domestic animals and other useful species.
3. Apply scientific method to professional practice, including medicine
4. Communicate information obtained during professional exercise in a fluid manner, orally and in writing, with other colleagues, authorities and society in general.
5. Define the basic concepts and methodology used in the study of animal health.
6. Demonstrate knowledge of English to communicate both orally and in writing in academic and professional contexts.
7. Distinguish the main parasitological diseases that affect domestic and useful animals.
8. Draft and present satisfactory professional reports, always maintaining the required confidentiality.
9. Evaluate the importance and appropriateness of necropsy as a method for diagnosing disease.
10. Identify the characteristic lesions of diseases in domestic and wild species.
11. Obtain appropriate samples from an animal or herd, and send to and process the samples in the laboratory.
12. Perform differential diagnoses on the basis of epidemiology, clinical signals and observable injuries in animals.
13. Produce action guidelines for a case or outbreak of an infectious-contagious disease.

14. Produce anatomopathological reports that specify a concise and precise description of the pathological findings, and that always include a lesional diagnosis.
15. Properly apply anatomopathological nomenclature and use suitable terminology in the field of infectious and contagious diseases.
16. Recognise the pathogeny of diseases in domestic animals, and establish suitable associations between lesions, etiology and clinical signals.
17. Work effectively in single or multidisciplinary teams and show respect, appreciation and sensitivity for the work of others.

Content

The contents of this subject are totally practical and are organized around the real cases and their resolution within the routine diagnostic activities of the animal health diagnostic services.*

Students will carry out laboratory practices, visits to farms / animal shelters or collectives, and the study of clinical cases referred to services that include necropsies, and the microbiological and parasitological laboratory diagnosis (isolation, serology, molecular biology, identification of pathogens, etc.).

Specifically, the contents of this subject will be related to the following activities:

- Diagnosis of necropsies (35 h)
- Laboratory diagnosis of infectious diseases (20 h)
- Laboratory diagnosis of parasitic diseases (15 h)
- Visits to communities of small animals (kennels or catteries, canine units) (5 h).
- Microbiological laboratory diagnosis (7,5 h)
- Evaluation of biosecurity in a farm and preventive medicine protocols (2,5 h)
- Visits to external farms with swine, poultry and rabbit field veterinarians (20 h)

* Unless the requirements enforced by the health authorities demand a prioritization or reduction of these contents.

Methodology

The practices will be carried out in small groups, integrating into the normal functioning of the different diagnostic services taking advantage of the real cases that arrive. The student will make a total of 105 hours distributed in the following activities or modules:

MODULES OF PISA	Hours	Weight on the final grad
MODULE PARASITIC DISEASES	20	20%
MÓDULE INFECTIOUS DISEASES	20	20%
MODULE NECROPSY	25	30%

Seminars: necropsy cases	10	
MODULE CLINICAL MICROBIOLOGY	7,5	7.5%
BIOSECURITY AND PREVENTIVE MEDICINE	2,5	2.5%
FIELD TRIPS (10h porcine, 5h rabbits, 5h poultry farms)	20	20%
TOTAL	105	100%

1) MODULE OF PARASITIC DISEASES

Professor responsible for the module: Joaquim Castellà (Joaquim.Castella@uab.cat)

Other teachers: Anna Ortuño, David Ferrer

OBJECTIVES

- Know how to sample, collect and manipulate samples for diagnosis
- Know the main methods and techniques of parasitological diagnosis
- Recognize the parasites and their forms of propagation in the samples analyzed
- Interpret correctly the results of the analytics carried out
- Know how to prepare a report of results
- Learn questions related to the management of a canine and feline group.
- Recognize the external factors involved in the maintenance and transmission of parasites in a collective.

ORGANIZATION OF PRACTICES

P1: Introduction to parasitological diagnosis

P2: kennel exit and sample collection

P3: Qualitative coprology. Analysis of the samples collected. Report

Q4: Quantitative coprology.

P5: Diagnosis and recognition of parasites with histological sections

P6: Diagnosis and recognition of ectoparasites

P7: Evaluation

P8: Canine Unit Exit.

EVALUATION

Evaluation of the report related to the P2 and P3 practices (15% final note of the module)

ORAL PRACTICAL EXAM: P7 (85% final note of the module)

Absences must be justified for scheduled departures.

Students must obtain a grade of at least 5 to pass the module.

2) MODULE OF INFECTIOUS DISEASES

Professor responsible for the module: Laila Darwich and Marga Martín(Laila.Darwich@uab.cat

Marga.Martin@uab.cat)

Other teachers: Enric Mateu

OBJECTIVES

- Learn the technique of collecting samples, sending and processing them in the laboratory
- Know the most common laboratory techniques and their interpretation
- Know the main problems of infectious origin of animals and how to solve them.

ORGANIZATION OF PRACTICES

Two intensive weeks, divided one in each semester, of work in the laboratory of infectious diseases (V0-231):

Week 1: general diagnostic techniques in animal health, application in clinical cases (10h / week)

Week 2: diagnosis of a real infectious case provided by the students (10h / week)

EVALUATION

Compulsory attendance to all practices (I1-I10)

A series of aspects related to attitude, knowledge, decisive capacity and active participation of the student in class will be evaluated, as well as the oral and written presentation of the report of a real clinical case that the students have to contribute.

Students must obtain a grade of at least 5 to pass the module.

3) MODULE OF NECROPSY (PATHOLOGICAL ANATOMY)

Professor responsible for the module: Mariano Domingo (Mariano.Domingo@uab.cat)

Other teachers: Natalia Majó, Alberto Marco, Toni Ramis, Joaquim Segalés.

OBJECTIVES

- Knowledge and identification of the lesions that characterize the diseases of domestic species.
- Mastery and correct application of pathological terminology
- Ability to establish associations between the lesions and the etiological and pathogenic aspects of the ailments, as well as the clinical signs with which they manifest themselves, writing reports.
- Sampling (biopsies, necropsies, cytologies) and their manipulation and preservation.

ORGANIZATION OF PRACTICES

3.1. Shifts for necropsies

- Performing 2 weekly shifts of necropsies (25 h), 2.5 hours / day, one week by semester for each group.

3.2. Seminars in Animal Health: necropsycases (DA)

- Case presentation seminars (10 hours, 4 groups).
- The cases will come from the diagnosis of necropsies
- In groups (2-3 students), it is necessary to prepare a necropsy case corresponding to one of the practice weeks.
- Tutorial development of the case and presentation of the data in public, in specific sessions of presentation of cases.
- Each student must participate in at least 6 case presentation sessions.

EVALUATION

Necropsy shifts: compulsory attendance at two shifts of five days each (control by lists and signature).

Case presentation seminars: mandatory attendance at 6 sessions of case presentation (control by lists and signature).

Presentation of the necropsy case: the case presentation is evaluated (50%), and the case report (50%).

Students must obtain a grade of at least 5 to pass the module.

4) MODULE OF CLINICAL MICROBIOLOGY

Professor responsible for the module: Gemma Castellà (Gemma.Castella@uab.cat)

Other professors: F.J. Cabañes, M.L. Abarca

OBJECTIVE

Laboratory diagnosis of the most frequent cases of Bacteriology and Mycology in the clinic of companion animals

ORGANIZATION OF PRACTICES:

Three laboratory sessions in 2 consecutive weeks (2 + 1), 7.5 h

Laboratory V0-225

EVALUATION

Continued, with compulsory attendance.

Valuation of the module (Range between 0-10).

5) BIOSECURITY AND PREVENTIVE MEDICINE

Teachers: JordiCasal, Alberto Allepuz (Jordi.Casal@uab.cat Alberto.Allepuz@uab.cat)

OBJECTIVES

- Assess *in situ* the quality of biosecurity measures in a livestock farm.
- Prepare reports of conclusions and recommendations for improving the safety of the farm to reduce the entry of pathogens.

ORGANIZATION OF PRACTICES

Small ruminant farm of the Veterinary Faculty (1h): Students will collect information on the farm about existing biosecurity measures through a survey. Students may ask the teacher in charge of the practice to collect information that cannot be assessed by visual inspection of the facilities.

Seminar discussion of the surveys (1.5h): For each group of seminar will be subgroups of 4-5 people who will discuss the biosafety measures found on the farm, and then a representative of each subgroup will present the opinion of their group and will raise possible recommendations for improvement. At the end of the seminar, a report will be prepared that will describe all the recommendations for applying them to the farm.

EVALUATION

Attendance at Biosecurity / Preventive Medicine practices is compulsory.

The evaluation of the student will be based on the attendance and the report presented (range of 0 to 10 points).

6) FIELD TRIPS FOR VISITING FARMS

Responsible teachers:

Poultry and rabbits: Margarita Martín (marga.martin@uab.cat)

Pigs: Enric Mateu (Enric.Mateu@uab.cat)

Associated veterinarians:

Joan Aparicio, Raquel Cortés, Joan Wennberg (pigs)

Luis Canela (Aves), Francesc Xavier Mora (rabbits)

ORGANIZATION OF PRACTICES

Four compulsory visits to farms (5 hours / visit):

- 2 pig farms (groups of 5 students)
- 1 rabbit farm (groups of 5 students)
- 1 avian farm (groups of 10 students)

EVALUATION

The evaluation will be based on a rubric established for this module that will take into account, on the one hand, the attendance to all scheduled departures and the degree of participation in the activities proposed by the associate professors (50%), and on the other hand the evaluation of a questionnaire / report by group for each of the outputs (50%).

The proposed teaching methodology may experience some modifications depending on the restrictions to face-to-face activities enforced by health authorities.

Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Field trips	20	0.8	1, 13, 12, 11, 17, 9
Laboratory practices in small groups	73.5	2.94	15, 3, 2, 5, 7, 14, 13, 12, 10, 11, 16, 17, 9
Seminars for case presentation and discussion	10	0.4	1, 15, 3, 4, 6, 14, 13, 12, 16, 8, 17

Seminars in small groups	1.5	0.06	1, 3, 13
Type: Autonomous			
Case resolution and written reports	45	1.8	1, 15, 3, 2, 4, 5, 7, 14, 13, 12, 10, 16, 8, 17, 9

Assessment

Attendance at all the scheduled activities of the subject is an essential requirement for passing the subject. The non-attendance at any practice will always have to be justified and will be recovered in some other session scheduled during the same course.

The approval of the subject implies having compulsorily passed each of the blocks of activities specified in the methodology section. The final grade will be the weighted result, based on the hours established for each of the specified activities.

When one or more modules are suspended, there will be the possibility of recovery according to the conditions defined by the responsible teacher. In case of not passing some modul -with recovery included-, the final grade in the record would be that of the module suspended and the subject would have to be repeated the following year.

Student's assessment may experience some modifications depending on the restrictions to face-to-face activities enforced by health authorities.

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Continuous assessment	100%	0	0	1, 15, 3, 2, 4, 5, 6, 7, 14, 13, 12, 10, 11, 16, 8, 17, 9

Bibliography

There will be specific bibliography depending on the cases to be solved.

We must remember that as this subject includes the practices of Animal Health I, Animal Health II and Animal Health III, its bibliographical sources are also useful in this.