

Academic Year/course: 2022/23

28426 - General Pathology and Propaedeutics II

Syllabus Information

Academic Year: 2022/23

Subject: 28426 - General Pathology and Propaedeutics II

Faculty / School: 105 - Facultad de Veterinaria

Degree: 451 - Degree in Veterinary Science

ECTS: 6.0

Year: 3

Semester: Second semester

Subject Type: Compulsory

Module:

1. General information

1.1. Aims of the course

The general objective of this course will be the learning of the functional alterations of the organs and systems of the animal organism, the clinical examination of domestic animals and their evaluation, with a view to their subsequent application to the study of animal medicine and production.

To achieve this general objective, the specific learning objectives of the subject of General Pathology and Propaedeutics II will focus on achieving that the student is able to:

- Know how to properly use the terminology of General and Propaedeutic Pathology.
- Know, understand and describe the mechanisms that lead to the alteration of the functioning of animal systems, apparatuses and organs, with the causes that produce them and the biopathological alterations that they generate, especially in the species of greatest interest in veterinary medicine.
- Know and evaluate the mechanisms of adaptation and defense of the organism against the disease and the consequences of the failure of these mechanisms.
- Know and evaluate in a practical way the analytical parameters as a diagnostic-prognostic method.
- Know and be able to perform the techniques of collecting and preserving samples for the most frequent diagnostic tests.
- Manage the basic scientific instrumentation, as well as to acquire the necessary skills for the accomplishment of the main clinical diagnostic tests.
- Know and elaborate the anamnesis and make and interpret a clinical history.
- Know and apply the appropriate clinical examination maneuvers for each animal species and interpret the results.
- Know and carry out the basic techniques for therapy application in domestic animals.
- know and manage the fundamental bibliographic sources for this subject.

These approaches and objectives are aligned with the following Sustainable Development Goals (SDGs) of the United Nations 2030 Agenda (<https://www.un.org/sustainabledevelopment/es/>), in such a way that the acquisition of the results of learning of the subject provides training and competence to contribute to some extent to its achievement: Objective 3: Health and well-being. Objective 4: Quality education Goal 5: Gender equality Goal 8: Decent work and economic growth Goal 10: Reduced inequalities Objective 12: Responsible production and consumption Goal 13: Climate Action Objective 15: Life of terrestrial ecosystems Goal 16: Peace, justice and strong institutions

1.2. Context and importance of this course in the degree

The subject of General Pathology and Propaedeutics II in the second four-month period of the third course requires the training provided by General Pathology and Propaedeutics I, and the basic subjects of Embryology and Anatomy I and II, Biology and Biochemistry, Cytology and Histology or Physiology. General Pathology and Propaedeutics II is also closely linked to subjects of the same course such as General Pathology, Diagnosis by Image, Pharmacology and Pharmacotherapy or Reproduction and Obstetrics, and should serve for students to acquire the skills necessary to address the rest of the subjects of the degree, especially those of a more clinical nature such as integrations in pets, equids and ruminants.

1.3. Recommendations to take this course

It is convenient for students to be enrolled/have passed General Pathology and Propedeutics I. It is also convenient for

students either to have passed all the subjects of the previous courses or to be enrolled in failed subjects.

In order to take this course it is particularly necessary for the student to have a solid knowledge of anatomy, histology and animal physiology, which allows him to assimilate the changes that pathology induces in the organism.

Special importance is given to the practical part of the subject, so it is also recommended the participation and involvement of the students in the practical activities of this subject.

2. Learning goals

2.1. Competences

On successful completion of this course, students will be able to:

1. Interpret the pathological processes acting on the animal organism.
2. Apply theoretical knowledge to the analysis of practical situations, solving problems and making decisions in real contexts.
3. Properly handle domestic animals during clinical examination.
4. Critically reason and develop capacities for analysis, synthesis and evaluation.
5. Communicate correctly and effectively, using appropriate scientific terminology.
5. Organize and plan the work and manage information.
6. Integrate in a work team to achieve common objectives, distributing and sharing responsibilities.

2.2. Learning goals

If students complete the course successfully, they should be able to

1. Use correctly the medical terminology specific to this subject.
2. Know and understand the pathogenic mechanisms that lead to the functional failure of an organ, system or apparatus, and the disturbances that occur in the organism and give rise to the clinical symptoms and syndromes of the diseases resulting from these alterations.
3. Take biological samples and choose the basic and complementary laboratory techniques that allow their evaluation, as well as interpret the results in order to detect the corresponding biopathological alterations.
4. Know and apply correctly methods and procedures for clinical examination of the different organs and systems in domestic animals and interpret the results derived from such examination.
5. Prepare and/or interpret a clinical history in the main species of domestic animals.

2.3. Importance of learning goals

Knowledge of physiopathology and the practical application of clinical examination on the animal are necessary both for the maintenance of health and for the diagnosis, prognosis and treatment of diseases affecting animals.

This knowledge constitutes the fundamental base on which the clinical training of the veterinarian is based, being more useful and necessary to the extent that this learning is more oriented towards a practical clinical activity.

3. Assessment (1st and 2nd call)

3.1. Assessment tasks (description of tasks, marking system and assessment criteria)

The student must demonstrate that has achieved the intended learning outcomes through the following assessment activities

Assessment of learning outcomes

Clinical examination practices (1, 2, 4, 6, 7, 9, 10 and 11) will assess skills for handling and clinical examination of animals of different species. A practical test will be carried out at the end of sessions 9, 10 and 11. Each of the practical exercises will be assessed with a maximum of 8 points. The maximum possible total score in this section will be 24 points. In order to pass this group of practices, a score equal to or greater than 15 points must be obtained in this section.

The remaining practices (3, 5 and 8) will assess the student's attitude and their participation in the activity, as well as the results of the report that must be completed and delivered at the end of each of the practical sessions.

Each of these sessions will be assessed with a maximum of 4 points. The maximum possible total score in this section will be 12 points. In order to overcome this group of practices, a score equal to or greater than 7 points must be obtained in this section.

Students who do not exceed the minimum score required in blocks 1.a and 1.b, during the development of the practices, either for a lack of attendance or for obtaining an insufficient score, will be summoned to a practical test of the corresponding block/s in each of the official summons.

At the end of the school year, a written test will be conducted consisting of 32 short answer questions corresponding to the

contents of the theoretical classes and seminars. Each question will have a maximum score of 2 points. In order to pass the written test, a score of 35 points or more must be obtained.

In order to pass the course, it is necessary to pass separately each of the 3 previous sections and the grades obtained in sections 1.a and 1.b will only be added to the grade obtained in the written test if the latter one has reached a minimum of 35 points.

If the student has passed the written test and has not passed activities 1.a and 1.b, the grade obtained in the first one is maintained until the next call within the same academic year. In the opposite case, once the activities 1.a and 1.b have been passed (and the written test has not been passed), the grades will be maintained for future calls.

Global assessment test

Those students who are not part of the face-to-face program and do not participate in all the proposed activities must undergo a global evaluation test, which includes three sections:

Written test, consisting of 32 short answer questions corresponding to the contents of the theoretical classes and seminars. Each question will have a maximum score of 2 points. In order to pass this written test, a score of 35 points or more must be obtained.

Practical test, two parts:

1. Clinical examination: one or more clinical examination exercises will be carried out on one or more animal species. The screening test shall have a maximum score of 24 points. In order to pass this test, a score of 15 points or more must be obtained.
2. -Laboratory: one or more practical exercises related to the practices developed in the laboratory will be conducted. The evaluation of laboratory practice shall have a maximum score of 12 points and a score equal to or greater than 7 points shall be obtained to pass this part.

To pass the subject is required to pass separately each of the previous sections and the grades obtained in the two parts of the practical test (clinical examination and laboratory) will only be added with the score of the written examination in case the written test has been passed, with a minimum of 35 points.

If the student has passed the written test and has not passed the practical examination and/or laboratory test, the qualification obtained in the first one will be maintained until the next call within the same academic year. Otherwise, once the clinical examination test and the practical laboratory test have been passed, the qualification obtained will be maintained for future calls.

Valuation criteria and requirement levels

In order to pass this subject, a total score of 57 points or more out of a possible 100 points must be achieved and each of the 3 sections evaluated (written test, clinical examination practice, laboratory practice) must be passed independently.

Marking system:

According to the national regulation Law 1025/2003, 5th of September which lays down the European system of credits and marking system for the university degree:

0-4,9: FAIL.

5,0-6,9: PASS

7,0-8,9: GOOD (NT).

9,0-10: EXCELLENT (SB).

As the article 158 of the Statutes of the University of Zaragoza lays down, provisional grades will be displayed at least for 7 days and students will be able to review them on the date, time and place provided for that purpose.

4. Methodology, learning tasks, syllabus and resources

4.1. Methodological overview

The learning process that has been designed for this course is based on the following:

Lectures, practical lessons, works, case presentations...

-Lectures: 30 master type lectures of 50 minutes? duration each will be given. They will be taught in the classroom that the Center determines, with students divided into two groups.

-Practical lessons: a total of 22 hours of practical lessons will be given in the classroom demonstrations of the building of the Clinical Veterinary Hospital, in the teaching ship of the Experimentation Animal Service and in the General Pathology teaching laboratory.

-Clinical cases sessions are taught in the General Pathology teaching laboratory, in the library of the General Pathology Unit or in a classroom, and include a total of 8 hours spread over several sessions.

4.2. Learning tasks

-Lectures: 30 hours of lectures will be given, including a first class of introduction and presentation of the subject. Throughout the course, the teacher offers students scripts, materials and/or bibliography appropriate in each case. It is interesting that in the development of these classes students have present the knowledge acquired in other subjects of the degree, which allowed a better understanding of the matter and will facilitate the assimilation of new content explained in each subject, allowing at the same time that the student develop its capacity for concepts analysis, synthesis and relationship.

-Practical lessons: prior to each of the practical sessions, the students will have scripts and materials needed for them, as well as the explanation of what it is to be performed in each one. This information must be consulted and analyzed by the student, so that when they arrive at the corresponding practice they make the most of the available time to perform practical activity. The session will begin with an explanation of the work to be carried out and subsequently the students run practice with available animals or in the laboratory, always under the supervision of the teacher.

- Clinical case sessions: they are sessions in which students must be the main protagonists and intervene actively. Prior to each session, all materials that is going to work with will be available to students, so that they can analyze and respond to the questions raised in each case. Seminar session will be a sharing and discussion session guided by the teacher, in which the proposals raised by the group will be assessed, and questions can be solved.

4.3. Syllabus

1: LECTURES PROGRAM

This program consists of 30 participatory master classes, distributed in 30 sessions of 1 hour.

MODULE I: Pathophysiology and biopathology of the digestive tract.

Lesson 1 - Pathophysiology and examination of the mouth, pharynx and salivary glands.

Lesson 2 - Pathophysiology of the esophagus and the stomach: dysphagias and regurgitation.

Lesson 3 - Vomiting syndrome (I).

Lesson 4 - Vomiting syndrome (II).

Lesson 5 - Pathophysiology of the bowel: Bowel ileus. Constipation. Diarrhea syndrome. Malabsorption syndrome.

Lesson 6 - Pathophysiology, biopathology and examination of the liver and biliary tract: Alterations of the bile, vascular, metabolic and detoxifier functions. Serum enzymes and functional tests.

Lesson 7 - Pathophysiology, biopathology and examination of the exocrine pancreas: Acute Pancreatitis. Exocrine pancreatic insufficiency.

Lesson 8 - Pathophysiology, biopathology and examination of the stomach of ruminants. Indigestions (I).

Lesson 9 - Pathophysiology, biopathology and examination of the stomach of ruminants. Indigestions (II).

Lesson 10 - Pathophysiology, biopathology and examination of the stomach of ruminants. Indigestions (III)

MODULE II: Pathophysiology, biopathology and examination of urogenital tract

Lesson 12 - Pathophysiology of diuresis: Syndrome polyuria/polydipsia. Oliguria, anuria, and urinary incontinence.

Lesson 13 - Kidney failure: Etiology and pathogenesis.

Lesson 14 - Glomerulopathies.

Lesson 15 - Tubular syndromes and interstitial nephropathy.

Lesson 16 - Examination and biopathology of urinary system.

Lesson 17 - Examination of the male genital apparatus.

Lesson 18 - Examination of the female genital apparatus.

Lesson 19 - Examination of the breast.

MODULE III: Pathophysiology and examination of the endocrine system and the nervous system.

Lesson 20 - Pathophysiology, biopathology and examination of the hypothalamic-pituitary axis: Alterations in the secretion of somatotropin and antidiuretic hormone.

Lesson 21 - Pathophysiology, biopathology and examination of adrenal glands: Hyper and hipoadrenocorticism.

Lesson 22 - Pathophysiology, biopathology and examination of thyroid and parathyroid glands: Hyper and hypofunction.

Lesson 23 - Pathophysiology, biopathology and examination of the endocrine pancreas: Hyper and hipoinsulinism.

Lesson 24 - Pathophysiology and biopathology of the adaptation and the pain.

Lesson 25 - Examination of the nervous system: Identification of neurological signs and location of the lesion.

Lesson 26 - Pathophysiology of the brain: Pathogenesis of processes that affect the brain.

Lesson 27 - Pathophysiology of spinal cord: Pathogenesis of processes that affect the spinal cord.

Lesson 28 - Examination of the musculoskeletal system.

Lesson 29 Clinical examination of the eye.

Lesson 30 Clinical examination of the ear.

2: PROGRAM OF PRACTICAL LESSONS

This program consists of 30 hours of practical activities, distributed in 11 sessions of 1'5-3 hours working with animals or in the laboratory, and 4 sessions of 2 hours of clinical cases.

1. Clinical examination of the abdomen in the dog (1'5 h).
2. Clinical examination of the abdomen and nervous system in the horse (1'5 h).
3. Clinical examination of the digestive system of ruminants and analysis of rumen fluid (3 h).

4. Clinical examination of the genitourinary system and breast in ruminants and biological sampling (2 h).
5. Sampling and basic analysis of urine (2 h).
6. Clinical examination of the nervous and muscle-skeletal systems in the dog (2 h).
7. Clinical examination of the senses in the dog (2 h).
8. Assessment of farms and communities (2 h).
9. Applied clinical examination in the horse (2 h).
10. Applied clinical examination in the dog (2 h).
11. 11 Applied clinical examination in ruminants (2 h).

A.- Clinical cases: Digestive biopathology (2 h).

B.- Clinical cases: Renal biopathology (2 h).

C.- Clinical cases: Endocrine biopathology (2 h).

D.- Clinical cases: Biopathology in large animals (2 h).

The detailed program of theoretical and practical activities must be supplemented by:

-Personal work for the consolidation of knowledge and preparation of the written and practical exams and the resolution of clinical cases.

-Tutorials

-Exams

4.4. Course planning and calendar

Calendar of sessions and delivery of tasks

Dates and key milestones of the subject are described in detail, together with those of the rest of the subjects of the third course in the degree of veterinary medicine, on the website of the Faculty of Veterinary Medicine (link: <http://veterinaria.unizar.es/gradoveterinaria/>). This link will be updated at the beginning of each academic year.

4.5. Bibliography and recommended resources

<http://psfunizar10.unizar.es/br13/egAsignaturas.php?codigo=28426>