Universitat de Lleida

DEGREE CURRICULUM

RUMINANT HEALTH AND CLINICS

Coordination: ARMENGOL GELONCH, RAMON

Academic year 2022-23

RUMINANT HEALTH AND CLINICS 2022-23

Subject's general information

<table>
<tr><td>Subject name</td><td>RUMINANT HEALTH AND CLINICS</td></tr>
<tr><td>Code</td><td>100366</td></tr>
<tr><td>Semester</td><td>2nd Q(SEMESTER) CONTINUED EVALUATION</td></tr>
<tr><td>Typology</td><td>
<table>
<tr><th>Degree</th><th>Course</th><th>Typology</th><th>Modality</th></tr>
<tr><td>Double bachelor's degree: Bachelor's Degree in Veterinary Medicine and Bachelor's Degree in Science and Production</td><td>4</td><td>COMPULSORY</td><td>Attendance-based</td></tr>
</table>
</td></tr>
<tr><td>Course number of credits (ECTS)</td><td>6</td></tr>
<tr><td>Type of activity, credits, and groups</td><td>
<table>
<tr><th>Activity type</th><th>PRACLIN</th><th>PRALAB</th><th>PRAULA</th><th>TEORIA</th></tr>
<tr><th>Number of credits</th><td>1.2</td><td>1.3</td><td>0.5</td><td>3</td></tr>
<tr><th>Number of groups</th><td>6</td><td>4</td><td>2</td><td>1</td></tr>
</table>
</td></tr>
<tr><td>Coordination</td><td>ARMENGOL GELONCH, RAMON</td></tr>
<tr><td>Department</td><td>CIÈNCIA ANIMAL</td></tr>
<tr><td>Teaching load distribution between lectures and independent student work</td><td>Lectures: 60 hours
Independent student work: 120 hours</td></tr>
<tr><td>Important information on data processing</td><td>Consult this link for more information.</td></tr>
<tr><td>Language</td><td>Catalan: 70%
English: 30%</td></tr>
<tr><td>Distribution of credits</td><td>Credits Theory 3
Credits Practical 3</td></tr>
</table>

RUMINANT HEALTH AND CLINICS 2022-23

Teaching staff	E-mail addresses	Credits taught by teacher	Office and hour of attention
ARMENGOL GELONCH, RAMON	ramon.armengol@udl.cat	8,7	
GRASA BAÑON, MIRIAM	miriam.grasa@udl.cat	7,7	

Subject's extra information

The Ruminants' Clinics and the Health is a subject of the Fourth Year of the Double Degree in Veterinary Medicine and Animal Science and Production, with a teaching load of 6 ECTS credits. This subject would be part of the concept of Medicine for the Production of Ruminants.

The subject is based on knowledge of the disease, physiology and environmental needs of animals in order to apply: The recognition and assessment of the clinical picture of diseases of infectious and non-infectious origin of different species of ruminants - large (bovine) and small (sheep and goat) -. Exploration and sampling of ruminants for the clinical diagnosis of diseases and their control. Interpretation of the results of diagnostic techniques to establish the etiology of diseases. Main symptomatic and curative, preventive, hygienic-dietary, chemotherapeutic, medical and surgical treatments. Prophylaxis, control and eradication of infectious and parasitic diseases that affect ruminants. Reproduction control and assisted reproduction techniques. Compulsory and recommended health programs in the species studied to maximize productive, animal welfare and animal health performance.

The aim of the subject is to promote health, knowledge of possible diseases or productive alterations that may appear in ruminants, their prognosis and evolution, and the establishment of appropriate therapeutic and preventive measures, both health and productive, to promote its healing and prevent its future presentation.

It is, therefore, an applied and multidisciplinary subject that uses methods and knowledge from other branches of science such as biology, physiology, ethology, reproduction, infectious and parasitic pathology, nutrition, propaedeutics. and animal production with the aim of developing appropriate clinical practices and health programs to maintain the health and well-being of ruminants, increase their production and reduce the losses of livestock farms in order to maximize their profitability.

In short, the Ruminants' Clinics and Health is an applied subject that is based on knowing and applying the basic rules by the different competent areas for the diagnosis, treatment, prevention, control and eradication of ruminant diseases, ensuring animal welfare and environmental integrity.

Learning objectives

The student must be able to:

Know and apply the methods and procedures of clinical exploration and diagnosis of ruminants, individually and collectively.
Recognize and diagnose pathological processes based on the signs, symptoms and lesions observed.
To know the pathological processes that affect the production and reproduction of ruminants, management techniques and assisted reproduction that allow an adequate level of production and well-being of ruminants.
Know and evaluate the application of the different options for diagnosis and treatment of diseases that affect the ruminant species under study, individually and collectively.
Be able to diagnose and control infectious and parasitic diseases, individually and collectively.
Be able to establish protocols and guidelines for the prevention of diseases of infectious, metabolic and nutritional origin.

Be able to know and apply mandatory and recommended health plans for the farms of each of the species.

Competences

General competencies

Strategic competencies of the University of Lleida

Possess and understand knowledge in an area of study that starts from the basis of general secondary education, and is usually found at a level that, while supported by advanced textbooks, also includes some aspects that involve knowledge from the vanguard of his field of study.
Apply their knowledge to their job or vocation in a professional way and possess the skills that are usually demonstrated through the elaboration and defense of arguments and problem solving within their area of study.
Ability to gather and interpret relevant data (usually within their area of study) to make judgments that include a reflection on relevant issues of a social, scientific or ethical nature.
To be able to transmit information, ideas, problems and solutions to both specialized and non-specialized audiences).
Know how to develop those learning skills necessary to undertake further studies with a high degree of autonomy.

Transversal competences of the degree

Acquire a significant use of both catalan and spanish lengauges.
Acquire a significant use of a foreign language, especially English.
Acquire training in the use of new technologies and information and communication technologies.
Acquire basic knowledge of entrepreneurship and professional environments.
Acquire essential notions of scientific thought.
General Competences:

The prevention, diagnosis and individual or collective treatment, as well as the control of ruminant diseases, either individually or in groups, particularly zoonoses.
The control of the breeding, handling, welfare, reproduction, protection and feeding of ruminants, as well as the improvement of their productions.
Obtaining products of animal origin in optimal and economically profitable conditions and assessing their environmental impact.
Knowledge and application of legal, regulatory and administrative provisions in all areas of the veterinary profession and public health, including the ethical implications of health in a global context of transformation.
Development of professional practice with respect to other health professionals, acquiring skills related to teamwork, efficient use of resources and quality management.
Identification of emerging risks in all areas of the veterinary profession.

Specific Skills:

Identify and apply clinical examination methods and procedures, complementary diagnostic techniques and their interpretation. As well as identifying and applying the basics of necropsy.
Identify and apply the bases of the general diagnosis, of the different types of lesions and their association with the pathological processes.
Know and apply the clinical study of the sick ruminant and the medical, surgical or hygienic treatments required. As well as sporadic diseases that affect the group.
Identify and apply the surgical, anesthesia and resuscitation techniques used in veterinary medicine.
Know the principles of reproduction, neonatal and preweaning periods, puerperium and assisted reproduction: Cure and related diseases.
Know the general pharmacological bases and study of the different types of drugs, pharmacotherapy, identify natural and synthetic toxins, and apply the principles of animal toxicology and the environment.
Know the infectious and parasitic diseases of veterinary interest, including their diagnosis and control, as well as apply the basics of zoonoses and public health.
Treatment and handling of ruminants in a safe and humanitarian manner. As well as instructing people on how to perform and perform these techniques properly.

Perform basic analytical techniques and interpret clinical, biological and chemical results. Interpret the results of general tests from other laboratories. As well as collecting, preserving and sending all types of samples with their corresponding report.
Diagnose the most common diseases using different general and instrumental techniques.
Use of radiographic and ultrasonographic equipment, as well as equipment that can be used for diagnostic purposes, safely and in accordance with current legislation.
Properly apply the principles of surgical equipment sterilization and the principles of surgical asepsis.
Attend to emergencies and carry out first aid in veterinary medicine.
Recognize when euthanasia is necessary and carry it out in a humane manner using appropriate and authorized methods.
Assess and interpret the productive and health parameters of a group of ruminants, considering the economic and welfare aspects.
Use of correct protocols and technologies aimed at modifying and optimizing the different animal production systems.

Subject contents

RUMINANTS' CLINICS AND HEALTH:

The subject matter of this part is an important part of the ruminants' clinics (bovine, ovine and caprine).

The theorical part delves into the main pathological processes (infectious or not) that affect the bovine, ovine and caprine species. Its etiology, epidemiology, pathogenesis, treatment and its different options and prevention are studied. We are working on the main clinical signs that are essential to establish a good differential diagnosis and the necessary tests to arrive at a definitive diagnosis. Different options for diagnosing, treating and preventing pathologies are proposed depending on the current legislation and the different production systems of the livestock farms of these species. Compulsory or recommended health programs are proposed on the farms of the different species studied.

The subject theory is divided into two blocks. Each block represents a group of ruminants: large (bovine) and small ruminants (sheep and goat). Each of the blocks emphasizes the Clinic and Health of each of the species under study, considering the different aptitudes and productive systems.

BLOCK 1 - BOVÍ Clinic and Health (40h)

Topic 1 - Obstetrics Clinic and Health and care of the newborn

Topic 2 - Postpartum Clinic and Health

Topic 3 - Clinical and Health of the Digestive System

Item 4- Clinical and Health of the Respiratory System

Item 5- Clinic and Health of the Locomotor System

Item 6- Clinic and Health of Mastitis and Milk Quality

Subject 7- Clinic and Health of the Reproduction

BLOCK 2 - Clinic and Health of Small ruminants (SHEEP and GOAT) (20h)

Topic 1- Clinic and Health of Childbirth

Item 2- Postpartum Clinic and Health

Topic 3- Clinical and Health of the Digestive System

Topic 4-Clinic and Health of the Respiratory System

Item 5- Clinical and Reproductive Health

Item 6- Chronic Diseases

Item 7- Mamitis and milk quality

PRACTICE

Seminars

1. Cesarean section and Uterine Torsion

2. Bovine Clinical Cases

3. Small Ruminant Clinical Cases

On farm practice

The practical parts are designed to work in small groups on farms in the area with all the information and tasks that a clinical veterinarian finds in their daily practice. Each student will have to do internships on cattle and sheep / goat farms.

Resolution and oral presentation of clinical cases not treated in the theoretical syllabus of the subject

Students will have to solve, in groups, 4 clinical cases (2 of bovine, 2 of Small ruminants) that will group all the practical and theoretical knowledge that they have been acquiring during the subject.

Methodology

The teaching activity is structured in theory and practice sessions, according to the time schedule included in the course plan that is delivered on the first day of class (Introduction to the subject: Topic 0).

1. Theorical. Theory sessions are based on master class sessions and aim to present the subject of each topic.

2. Practical sessions. Internships consist of seminar sessions, farm visits and clinical cases resolution. There may be a guest conference. Clinical techniques will be taught on the farm and through audiovisual material.

Students will have the teaching material summarized in the course in the electronic dossier of the subject.

Development plan

The schedule and development plan of each teacher will be provided on the first day of the course. In general, the plan will try to make the subjects common to the different species studied as close as possible in time, with the intention that the student can have the vision and problems that are presented in each species studied but also in general, in all ruminants and the production systems to which they are subjected.

The internship calendar and the groups that make it up will also be provided at the beginning of the course.

There will be two partial exams on the subject taught in the theoretical sessions, seminars and clinical cases.

Evaluation

The evaluation of the subject will be as follows:

Arithmetic mean of two partial theory exams. These exams include questions about the seminars: 60% of the Final mark

Resolution of 4 clinical cases in small groups (maximum 4 students): 40% of the final grade

Whenever possible, the 2 partial theory exams will be carried out within the evaluation periods provided by the School in the 2021-2022 calendar.

The resolution of the clinical cases will be delivered to the teacher in writing (Arial 11 font size, 1.5 line spacing and MAXIMUM 2 PAGES (faces) per case). The deadline for submission of clinical cases will be provided on the first day of class and will be written in Topic 0 of the subject (Presentation and introduction). Clinical cases have NO period or opportunity for reevaluation.

The following conditionality is set:

In order to pass the course, it will be necessary for the arithmetic average of the two partial theoretical exams to be equal to or greater than 5.0.

In order to pass the course, the Final Grade (60% Partial Exams and 40% Clinical Case Resolution) must be equal to or greater than 5.0.

Students who have taken and failed the partial theory exams, and have submitted the resolution of the clinical cases may take the resit exam established by the calendar of the Degree Course 2021-2022 Facilitated by the School. In any case where the grade is equal to or greater than 5.0 in the resit exam, the final grade of the subject will be 5.0 Passed

Students who:

They have NOT taken one or both of the partial theory exams

They have NOT delivered the resolution of the clinical cases

There has been a lack of respect for teachers, farmers or workers, but also for the animals on the farms where the internships will take place.

They have committed serious misconduct during the course of the subject; especially if these have happened in the development of the On Farm Practice. These are considered, among other things, to be serious misconduct for this purpose: fraud in the assessment process, attendance at internships with impaired mental faculties due to the consumption of alcohol, drugs or narcotics, non-compliance with safety regulations. the laboratories or external establishments visited, the disregard towards our hosts etc.

Bibliography

BOVINE

COW SIGNALS (El lenguaje de las vacas). Guía pràctica para el manejo de explotaciones de vacuno lechero. Jan Hulsen. Ediciones técnicas Reunidas. 2010.

COW SIGNALS (Manejo de la Recría). Guia prpactica para la mejora en la gestión de la recría. Jan Hulsen. Ediciones técnicas reunida. 2010.

Bienestar animal i vacuno de leche: Mitos y realidades.Carles Buxadé Carbó. Ediciones Euroganadería. 2006.

La exploración Clínica del Ganado Vacuno. Luis Miguel Cebrián Yagüe et col.Ed. Servet. 2005.

Rebhun's Diseases of Dairy Cattle. Saunders; Edición: 2.2007
Microbiología y enfermedades infecciosas veterinarias.Quinn et al Acribia SA. 2002

Radostits, O.M., Gay C.C., Hinchcliff K.W., Constable P.D. (2007). Veterinary Medicine: A textbook of the diseases of cattle, horses, sheep, pigs and goats, 10th ed. (Radostits, Veterinary Medicine). Saunders Ltd. ISBN-10: 0702027774

Blowey R., Weaver A.D. (2011). Color Atlas of Diseases and Disorders of Cattle, 3rd ed. Mosby. ISBN-10:0723436029

És molt recomanable que l'alumne estigui acostumat a consultar articles científics referenciats de revistes internacionals a través de bases de dades (ex. pubmed). Revistes d'interès especial: Journal of Dairy Science, Theriogenology, The Veterinary Record, The Veterinary Clinics of North America.

Websites d'interès:

http://w3.vet.cornell.edu/virtualvet/Bovine/default.aspx (Atles de necròpsia i malalties del boví)
http://www.thecattlesite.com/diseaseinfo/

SMALL RUMINANTS

Luis Miguiel Ferrer, Jose A. García de Jalón, Marcelo de las Heras. Atlas de Patologia ovina (2002). Ed Servet.I.S.B.N.:978-84-932921-1-9.

J. C Corcy. La cabra (1993).Mundi-Prensa Libros. I.S.B.N.: 978-84-7114-435-5

Juan Jose Ramos Antón, Luis Miguel Ferrer Mayayo. La exploración clínica del ganado ovino y su entorno (2007). Ed. Servet. ISBN: 978-84-935971-0-8

Websites d'interès:

https://eufmdlearning.works/

http://www.cfsph.iastate.edu/
http://www.oie.int/
http://www.albeitar.portalveterinaria.com/
http://www.seoc.eu/es/libros-de-actas/