



Universitat de Lleida

DEGREE CURRICULUM
**RUMINANT HEALTH AND
CLINICS**

Coordination: ARMENGOL GELONCH, RAMON

Academic year 2023-24

Subject's general information

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

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 languages.

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 theoretical 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.

BLOC - BOVINE Clinic and Health (22h)

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 - Clinic and Health of Small ruminants (SHEEP and GOAT) (16h)

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

Seminars

1. Cesarean section and Uterine Torsion (2h)

2. Bovine Clinical Cases (6h)

3. Small Ruminant Clinical Cases (6h)

Bovine Practice Block and Small Ruminant Practice Block

The practical sessions are designed to work in small groups on farms in the area all the information and tasks that a clinical veterinarian finds in his daily practice. Each student must do internships on beef and sheep/goat farms (6 h/session).

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

The students will have to solve, in groups, 4 clinical cases (2 of cattle, 2 of small ruminants) that will bring together all the practical and theoretical knowledge that they have been acquiring during the course.

Methodology

The teaching activity is structured in theory and practical 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. Theoretical classes. The theory classes are based on master class sessions and seminars, and aim to present the material of each subject.

2. Practical classes. The practices consist of visits to farms and presentation and resolution of clinical cases. There may be an invited lecture. Clinical techniques will be taught on the farm and through audiovisual material.

Students will have the summarized teaching material of the course in the subject's electronic file.

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 theoretical exams for each one of the theoretical blocks (Cattle and Small Ruminants). These exams include questions about the seminars.

The Bovine Theoretical Bloc represents 36% of the Final grade.

The Theoretical Bloc of Small Ruminants represents 24% of the Final grade.

Bovine practical bloc: Attendance to the bovine farm practices and the resolution of TWO clinical cases in small groups (maximum 4 students), represents 20% of the final grade.

Small Ruminants practical bloc: Assistance to small ruminants farm practices and the resolution of TWO clinical cases in small groups (maximum 4 students), represents 20% 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 2023-2024 calendar.

The FINAL GRADE OF THE SUBJECT will be obtained by applying the average of each one of the blocs, preserving its proportionality.

The resolution of the clinical cases will be delivered to the professor through the activity that will be created in the Virtual Campus space of the subject.

Conditions for the presentation of Clinical Cases:

Arial 11 letter size, 1.5 spacing and MAXIMUM 2 PAGES (faces) per case. The deadline for delivery 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 recovery period or opportunity.

The following conditionality is established:

In order to pass each of the theoretical blocs (CATTLE and SMALL RUMINANTS) it will be necessary for the arithmetic mean of the two partial theoretical exams to be equal to or greater than 5.0 IN EACH ONE OF THE BLOCS.

In order to pass the course, it will be necessary for the final grade to be equal to or greater than 5.0.

Students who have taken and failed the theoretical exams of any of the blocs, and have presented the resolution of the clinical cases may take the resit exam established by the calendar of the Grade Course 2023-2024 Facilitated by the School. In any case where the grade is equal to or greater than 5.0 in the resit of the affected bloc, the final grade will be 5.0.

Students who:

They have NOT taken any of the partial theoretical exams on the bloc.

They have NOT delivered the resolution of the clinical cases.

They disrespect the teachers, farmers and workers, but also the animals on the farms where the practices will take place.

Incur in serious offenses during the course of the subject; especially if they have happened in the development of Practices. The following are considered, among others, serious offenses for these purposes: fraud in the evaluation processes, attendance at Practices with impaired mental faculties due to the consumption of alcohol, drugs or narcotics, non-compliance with safety regulations in laboratories or establishments external visited, inconsideration towards our hosts, etc.

Alternative evaluation: Those students who, according to current regulations, can take advantage of this evaluation modality and who actually do so, will be evaluated as follows:

Practical activities: Attendance at all the practical activities and the delivery of all the reports and evaluation

evidence established in each of the blocks, in this case, the note will correspond to the joint evaluation of all the practical activities and will have an evaluative weight of the 40% of the final mark. To pass the subject it will be necessary to pass this section.

Theoretical activities: The theoretical activities will be evaluated in a final exam, where each of the blocks will be represented in the proportional part of the final grade. Its value will be 60% of the final mark

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). Guía 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 Cebrían 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> (Atlas de necròpsia i malalties del boví)

<http://www.thecattlesite.com/diseaseinfo/>

SMALL RUMINANTS

Luis Miguél Ferrer, Jose A. García de Jalón, Marcelo de las Heras. Atlas de Patología 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/>

