

Course Unit	Infectious and Parasitic Diseases		Field of study	Veterinary Science	
Bachelor in	Veterinary Nursing		School	School of Agriculture	
Academic Year	2023/2024	Year of study	2	Level	1-2
Type	Semestral	Semester	1	Code	9085-783-2101-00-23
Workload (hours)	162	Contact hours	T -	TP -	PL -
			TC -	S -	E -
			OT -	O -	

T - Lectures; TP - Lectures and problem-solving; PL - Problem-solving, project or laboratory; TC - Fieldwork; S - Seminar; E - Placement; OT - Tutorial; O - Other

Name(s) of lecturer(s) Filipa Cristina Teixeira de Sousa Rodrigues, Hélder Miranda Pires Quintas

### Learning outcomes and competences

At the end of the course unit the learner is expected to be able to:

1. The students must know the most important causes of the diseases caused by bacteria, protozoa and parasites and your sanitary, medical prophylaxis.
2. They must know the basilar concepts for hygiene, sanitary and zoonoses. To know European and National Legislation.
3. The students must know how to carry out laboratories techniques for characterization and isolation of principals microorganisms, protozoo and parasites.

### Prerequisites

Before the course unit the learner is expected to be able to:

1. The students will have knowledge about anatomy, biochemistry, physiology, microbiology, immunology.
2. Collect biological samples and send to the laboratory, animal behavior, welfare, ecology, biology.
3. Ecology and biology of exotic and silvatic species.

### Course contents

Etiology of the diseases. Principal infectious and contagious diseases of the animals. Diseases provoked by bacteria, fungus, mycoplasma, rickettsya, virus. Principal symptoms and damages. Laboratorial techniques for diagnosis of infectious diseases and isolation of agents. Introduction to the Parasitology. External, internal parasites and protozoo. Biological cycles and parasitic diseases. Laboratorial techniques of diagnosis. Prevention of professional risks and treatment of residues.

### Course contents (extended version)

1. INTRODUCTION - MAIN OBJECTIVES OF VETERINARY MEDICIN
2. CONCEPTS: Health / Disease THE MEDIUM, THE ANIMAL AND MAN
  - Methods of study of Infectious Diseases Infectious etiology, epidemiologic data, pathogenesis.
  - Prophylaxis of infectious diseases
  - Veterinary Public Health
  - Epidemiological actions
  - Defense mechanisms
  - Active and passive immunity
3. INFECTIOUS DISEASES AFFECTING VARIOUS SPECIES
  - Rabies.
  - Foot and Mouth Disease.
  - Tuberculosis. Brucellosis.
  - Clostridioses. Enterotoxaemias.
  - Salmonellosis. Colibacillosis. Neonatal diarrhea.
  - Pasteurellosis. Respiratory Complex.
  - Leptospirosis. Listeriosis.
  - Dermatophytiases and Malassaziosis.
  - Prion diseases: BSE and Scrapie
4. SPECIFIC INFECTIOUS DISEASES
  - DOG: Distemper. Parvovirus. Infectious hepatitis. Canine herpesvirus. Kennel cough.
  - CAT: Feline leukosis, Feline immunodeficiency, Runny nose, Panleukopenia, Infectious peritonitis
  - EQUIDS: Equine Flu, Infectious Anemia, Infectious Gurma, and Rhinopneumonitis.
  - CATTLE: IBR, BVD and Paratuberculosis. Mastitis. Enzootic Leukosis
  - SMALL RUMINANTS: Bluetongue, Contagious agalaxia, Chlamydia, SRLV, Contagious ecthyma. Peeira
  - PIGS: Erysipelas, Atrophic Rhinitis, Enzootic Pn, Aujeszky's, PRRS, Circovirus, Porcine Ileitit.
  - BIRDS: Bird flu, Gumboro, Marek, Newcastle, Bronchitis, Infectious laryngotracheitis, Mycoplasmosis
  - Rabbits: myxomatosis, tularaemia, haemorrhagic viral disease
  - Diseases of Exotic Animals/New Companion Animals
5. PARASITOLOGY: Introduction
  - Biological association - parasite adaptation, parasite - adaptation, epidemiology / epizootological
  - Harmful action on hosts. The host defense mechanisms
  - Parasitological periods. clinical periods.
  - Zoological nomenclature: roundworms, flatworms (tapeworms, Trematodes), protozoa, arthropods
6. PARASITIC DISEASES OF PETS
  - Dog and cat - parasitic digestive, respiratory, systemic, cutaneous
  - Equines - parasitic digestive, respiratory, skin
7. PARASITIC DISEASES OF ANIMAL PRODUCTION
  - Ruminants - parasitic digestive, respiratory, systemic, cutaneous.
  - Pigs-parasitic digestive, respiratory, systemic, cutaneous.
8. PARASITIC DISEASES OF WILD AND EXOTIC ANIMALS
  - Poultry: coccidiosis, histomoniasis, trichomoniasis, nematodoses
  - Rabbits: coccidiosis, cestodoses, encephalitozoonosis, scabies.
9. PRACTICAL SAFETY IN THE LABORATORY
  - CLASSIFICATION AND DESCRIPTION OF LAB EQUIPMENT - Glassware, plastic and stainless steel.
  - GENERAL RULES FOR MAINTENANCE OF MATERIALS AND EQUIPMENT - washing, drying, storage.
10. APPLIANCES / KITS AND ITS USAGE
  - Microscope, magnifying device, Wood lamp, diagnostic kits, other
11. REAGENTS AND SOLUTIONS
12. COLLECTION / STORAGE / SHIPMENT OF SAMPLES
13. BLOOD - Methods of collection, smear techniques, types of coloring, haemoparasites.
14. Collection of faeces
  - Willis method, Method of Telemann, faecal cultures,
  - Identification of parasite eggs Identification of adult parasites
15. SKIN / HAIR - Direct observation
  - Skin sampling Direct hair observation Wood lamp
  - Adhesive technique Method of aspiration Cytology headset
16. Ectoparasites: Ticks, Fleas, Lice, Mites, myiases

**Course contents (extended version)**

17. Bacteriology - type specimens, special stains, cultures, microscopic observation of microorganisms
18. Others
  - Tracheal secretions, bronchial - Bacterial agents, fungi, parasitic agents.
19. EXOTIC (birds / reptiles / small mammals)
  - Major microbial agents and parasites, Methods of collection / laboratory analysis

**Recommended reading**

1. Barger, A. M. , & MacNeill, A. L. (2015). Clinical Pathology and Laboratory Techniques for Veterinary Technicians. Chichester, UK: John Wiley & Sons, Ltd.
2. Hendrix, C. M. , & Robinson, E. D. (2016). Diagnostic Parasitology for Veterinary Technicians. Elsevier Health Sciences.
3. Jacobs, D. , Fox, M. , Gibbons, L. , & Hermosilla, C. (2016). Principles of veterinary parasitology. John Wiley & Sons.
4. Quesenberry, K. , & Carpenter, J. W. (2011). Ferrets, Rabbits, and Rodents: Clinical Medicine and Surgery. Elsevier Health Sciences.
5. Megid J. et al. (2016). Doenças Infecciosas em Animais de Produção e de Companhia. GUANABARA. Roca.

**Teaching and learning methods**

Theoretical magisterial classrooms, with resource the audiovisual equipments, media and Informatica. The practical classrooms of laboratory of microbiology and of parasitology, for isolation and characterization of the causal agent of the diseases. In the hours they are not present, the pupils will have to perfect the techniques of laboratory, accompany the management of animals.

**Assessment methods**

1. Continuous evaluation - (Regular, Student Worker) (Final)
  - Intermediate Written Test - 35% (minimum grade 9, 5/20)
  - Presentations - 30% (minimum grade 9. 5 / 20; about an infectious disease)
  - Intermediate Written Test - 35% (minimum grade 9, 5/20)
2. Final exam - (Regular, Student Worker) (Final, Supplementary, Special)
  - Final Written Exam - 100% (for students who have not submitted or been approved for continuous evaluation)
3. Incoming Students (mobility programs) - (Regular, Student Worker) (Final, Supplementary, Special)
  - Development Topics - 100% (two works)

**Language of instruction**

1. Portuguese, with additional English support for foreign students.
2. English

**Electronic validation**

Filipa Cristina Teixeira de Sousa Rodrigues, Hélder Miranda Pires Quintas	Álvaro Luís Pegado Lemos Mendonça	Hélder Miranda Pires Quintas	Ramiro Corujeira Valentim
17-01-2024	28-01-2024	29-01-2024	29-01-2024