

INFECTIOUS DISEASES, PREVENTIVE MEDICINE AND CLINICAL LECTURES ON SPECIES 4

Study program	Veterinary Medicine
Year of study	V
Semester	II
Regime of discipline	DOB
Category of discipline	Dsc
Number of lectures hours per week	2
Number of seminar/laboratory/project hours per week	1
Total number of hours according to the curriculum: lectures/seminars/laboratory/project	28/14
Number of transferable credits	3

SPECIFIC SKILLS

Professional Competence	<p>Epidemiological surveillance of livestock, detection, prevention and control of diseases, including zoonoses.</p> <ul style="list-style-type: none"> - Specifying the appropriate epidemiological methods to identify diseases, including zoonoses. <p>Interpretation of epidemiological survey of information related to communicable diseases for the preparation of defense programs and public health animal health</p> <ul style="list-style-type: none"> - Treatments, vaccinations, biosecurity measures and other measures to prevent and combat communicable diseases, animal identification and managing their circulation - Development of protocols and methods to prevent and combat diseases appropriate to limit the risk to animals and humans. - Students apply the principles of professional communication in epidemiological surveillance, diagnosis, and control of transmissible animal diseases. - Students interpret and communicate relevant epidemiological information to owners, colleagues, authorities, and the public, using appropriate scientific language
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LEARNING OUTCOMES

Knowledge	<p>Upon successful completion of the Infectious Diseases course, the student should be able to:</p> <ul style="list-style-type: none"> • Explain the etiology, epidemiology, and pathogenesis of major infectious diseases affecting domestic animals, wildlife, and companion species. • Describe mechanisms of transmission of pathogens (viral, bacterial, fungal, parasitic) at individual and population levels. • Identify the clinical signs, stages, and disease progression of key infectious diseases and correlate them with underlying biological processes. • Understand principles of host–pathogen interaction, immunity, and factors influencing susceptibility or resistance to infection. • Classify infectious agents based on structure, replication, pathogenicity, and zoonotic potential. • Explain diagnostic methods used in infectious disease investigation, including laboratory testing, molecular diagnostics, imaging, and field surveillance. • Discuss prevention and control strategies, including vaccination, biosecurity, hygiene management, antiparasitic programs, and outbreak containment. • Understand principles of antimicrobial use, antimicrobial stewardship, pharmacodynamics/pharmacokinetics, and mechanisms of resistance. • Describe national and international legislation relevant to infectious disease control, animal movement, zoonoses, and notifiable diseases.
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	<p>Explain outbreak investigation procedures, including case definition, sample collection, risk factor identification, and reporting obligations.</p>
<p>Skills</p>	<p>Upon completion of the course, the student should be able to:</p> <ul style="list-style-type: none"> - Perform clinical examinations focused on detecting signs suggestive of infectious diseases. - Collect, preserve, and transport biological samples according to biosafety standards and diagnostic requirements. - Apply appropriate diagnostic techniques (microscopy, culture, rapid tests, PCR-based methods) and interpret laboratory findings. - Assess the infectious status of individual animals and herds using clinical, epidemiological, and laboratory data. - Develop differential diagnoses for infectious conditions based on clinical reasoning and pattern recognition. - Formulate preventive and control strategies tailored to specific pathogens, species, and production systems. - Implement biosecurity measures at farm, clinic, and population level and evaluate their effectiveness. - Participate in outbreak investigations, conduct basic data collection, and contribute to tracing and containment actions. - Communicate effectively with animal owners, colleagues, veterinary authorities, and public health professionals regarding infectious disease risks and management. - Apply principles of responsible antimicrobial use, selecting appropriate therapeutic protocols and avoiding practices that promote antimicrobial resistance. - Apply vaccination schedules and herd immunity monitoring effectively
<p>Responsibility and autonomy</p>	<ol style="list-style-type: none"> 1. Autonomous interpretation of clinical and paraclinical data The student independently analyzes clinical signs, hematological, biochemical, microbiological, and epidemiological data to formulate correct diagnostic hypotheses in infectious diseases. 2. Responsibility in establishing the differential diagnosis The student independently draws up lists of differential diagnoses based on probable etiology, pathogenesis, clinical signs, and epidemiological context. 3. Autonomy in collecting and handling biological samples The student responsibly decides on the method of collection, packaging, labeling, and transport of samples (blood, secretions, feces, tissues), complying with biosafety protocols and good laboratory practices. 4. Responsible management of suspected cases The student contributes autonomously to the identification and isolation of suspected or confirmed animals, limiting the risk of transmission on the farm or in the clinic. 5. Autonomous application of biosecurity measures The student responsibly implements biosecurity protocols (disinfection, vector control, flow management, protective equipment) in clinical and farm settings. 6. Independent formulation of initial therapy

	<p>Students responsibly propose initial treatment for infectious diseases, including supportive therapy and measures specific to the probable etiology, in accordance with the principles of judicious antimicrobial therapy.</p> <p>7. Responsible use of antimicrobials</p> <p>The student applies the principles of antimicrobial stewardship, assessing the need, choice, and duration of antimicrobial treatment, avoiding inappropriate or excessive use.</p> <p>8. Autonomous assessment of response to treatment</p> <p>The student monitors the patient's progress and responsibly decides on therapy adjustment based on clinical response, laboratory results, and possible adverse reactions.</p> <p>9. Responsible communication with owners and authorities</p> <p>The student independently conveys information about diagnosis, treatment options, transmission risks, prevention measures, and legal obligations (reporting of notifiable diseases).</p> <p>10. Independent application of public health principles</p> <p>The student makes responsible decisions regarding zoonoses, risks to public health, management of cases with zoonotic potential, and collaboration with health authorities.</p> <p>11. Responsibility in managing infectious disease outbreaks</p> <p>The student contributes independently to the implementation of control measures (isolation, quarantine, movement restrictions, vaccination in the outbreak area), in collaboration with official veterinarians.</p> <p>12. Application of ethical and legal principles in infectious diseases</p> <p>Students make autonomous and ethical decisions regarding animal welfare, staff protection, and mandatory reporting of infectious diseases, in compliance with national and European legislation.</p>
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COURSE OBJECTIVES

General objective of the course	They are taught basic knowledge of common infectious diseases of animals and man, infectious diseases common to various animal species and infectious diseases that evolve to farm and company animals as well as notions of preventive veterinary medicine.
Specific objectives	<p>The practical works is envisaged getting by students of knowledge and skills and knowledge on infectious diseases diagnosis biological products used in the prophylaxis of these diseases.</p> <p>For clinical examination we using sick animals and teaching films, and for anatomopatlogic examination we use cadavers, prepared anatomopatlogice and also teaching films. For laboratory tests we use bacterial strains collection, standardized diagnostic kits and performs routine exams (bacterioscopic, bacteriological, hematological and serological).</p>

COURSE CONTENT

LECTURES	Number of hours
Infectious diseases of poultry	6

Infectious diseases of swine	7
Infectious diseases of bovine	9
Infectious diseases of sheep and goats	2
Infectious diseases of horses	2
Infectious diseases of dogs and cats, fish, bees and silk-worm	2
SEMINAR/LABORATORY	Number of hours
Collective training on the prevention and extinguishing of fires and emergency situations and on safety and health in work. Clinical exam in bovine infectious diseases	2
Sanitary veterinary actions in bovine in farms	2
Clinical exam in small ruminants and horses	2
Sanitary veterinary actions in small ruminants in farms	2
Sanitary veterinary actions in horses in farms	2
Clinical and laboratory exams in infectious diseases in dogs	2
Clinical and laboratory exams in infectious diseases in cats	2

BIBLIOGRAPHY:

1. Hartman K., Sykes J. Canine Infectious Diseases, CRC Press, 2018
2. Zimmerman, JT., Karriker LA., Ramirez A., Schwartz KY, Stevenson GW Diseases of Swine, 10th edition, Wiley Blackwell, 2012
3. Bayry J Emerging and Re-Emerging Infectious Diseases of Livestock Springer, 2017
4. Green CE Infectious Diseases of the Dog and Cat 4th edition Elsevier 2012
5. Van der Kolk, Knoeze EJB Infectious Diseases of the Horse Manson Publishing 2013
6. Swayne DE, Glisson YR, McDougald LR, Nolan LK, Suarez DL, Nair V Disease of Poultry Wiley-Blackwell 13rd edition 2013
7. Weese JS, Fulford M Companion Animals Zoonosis, Wiley-Blackwell 2011
8. Gahlawat SK, Maan S Advanced in Animal Disease Diagnosis CRC 2021
9. Corina Pascu – Infectious diseases in animals – lecture notes

ASSESSMENT

Activity type	Assessment criteria	Assessment methods	Percentage of final grade
Lectures	Final check	Oral exam	80%
Seminar/laboratory/clinical sessions	Colloquium practical	Oral/practical exam	20%
Other activities			

Course coordinator: Assoc. Professor CORINA PASCU

Practical activities coordinator L/S/P: Assoc. Professor CORINA PASCU, Assist. Prof. VLAD IORGONI