PATHOPHYSIOLOGY

Study program	Veterinary Medicine
Year of study	II
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	3
Total number of hours according to the curriculum: lectures/seminars/laboratory/project	28 hours lectures /42 hours laboratory
Number of transferable credits	5

SPECIFIC SKILLS

Professional Competence	C1. Interpretation of disease symptoms by general mechanisms of defense / adaptation of the organism in case of illness, to understand the principles of therapeutics and prophylactics; Use of specific methods and techniques applied in Pathophysiology lab, in the evaluation of the body's functioning "status"; C2 Explaining the mechanisms of reactivity of the body, depending on the physiological concepts, to understanding and application of specific prophylactic methods used in controlling infectious or parasitic diseases

LEARNING OUTCOMES

Knowledge	The student/graduate describes the main pathological mechanisms of the animal body. The student is able to understand disease mechanisms: knowledge about how the body is affected by diseases, including the causes, risk factors, and pathological processes that lead to the onset and progression of the diseases.
Skills	The student/graduate interprets the mechanisms underlying pathological processes, and the main animal pathologies Disease evaluation skills: the student is able to interpret symptoms and correlate with the results of paraclinical investigations. Disease management skills: the student develops the necessary skills to monitor patient progress.
Responsibility and autonomy	The student/graduate evaluates the pathological mechanisms involved in diseases in animals. Responsibility • Patient-centered care: commitment to the well-being of the patient. • Risk management: identifying risks associated with disease, and One

	Health medicine. Autonomy • Decisions:the ability to make independent decisions in complex situations, based on solid knowledge. • Continuous learning: the ability to adapt to new information, update knowledge and work effectively, without constant supervision,

COURSE OBJECTIVES

General objective of the course	Familiarize students with general principles of disease and pathological reactions in order to apply specific acquired knowledge, in conjunction with clinical disciplines, in identifying symptoms, explaining pathogenesis and setting the therapeutic approach
Specific objectives	- Use scientific language specific of pathophysiology discipline to explain the general causes, pathogenesis and development of disease, correlated to the influence of environmental factors and reactivity of the body ; - Describe sanogenetic mechanisms underlying the process of restoring the individual homeostasis, consecutive of a disease; - Analyze complex post - aggressive reactions predominantly local and common to several diseases through the mechanisms of physiological and pathophysiological point of vue; - To demonstrate the capabilities of observation , interpretation and analysis of pathological phenomena in order to achieve projections of individual functional status evolution and adoption of appropriate therapeutic conduct - Properly handle animals, instruments and laboratory equipment, which are specific for pathophysiology - To apply the methods and techniques of pathophysiology laboratory - To perform responsible professional tasks under conditions of limited autonomy

COURSE CONTENT

LECTURES	Number of hours
Topic no.1. Introduction to Pathophysiology. Overview of the discipline (discipline file) planning assessments, rules on discipline teaching activities; general guidelines. Introduction to physiology: definition, features, systemic approach.	2
Topic no.2. General features common to all diseases. Causality, reactivity and illness circumstances: definition and features.	2
Topic no.3. Disease. Pathological process, pathological state, developmental stages of the disease: definition, enumeration and features.	2
Topic no.4. General etiology. Main pathogenic mechanisms: neuro- reflex, patochimic and nevrotigen; definition, pathogenesis.	2
Topic no.5. Adaptation, alteration and death of the cells. Cellular adaptation: definition, types, features. Cellular alteration: definition, types, features. Cell death: definition, types, features .	2
Topic no.6. Stress and Adaptation to Stress. Stress: Definition, evolution, influencing factors. Adaptation to stress.	2
Topic no.7. Pathogenic action of mechanical and thermal factors Pathogenic action of mechanical factors: definition, pathogenesis, features. Pathogenic action of heat: definition, types, pathogenesis, features.	2
Topic no.8. Pathogenic action of atmospheric pressure and sounds. Pathogenic action of atmospheric pressure definition, pathogenesis, types, features. Pathogenic action of sounds: definition, pathogenesis, features.	2
Topic no.9. Pathogenic action of radiation, electromagnetic and biological factors. Definition, pathogenesis, types, features.	2
Topic no.10. Pathophysiology of microcirculation: Ischemia, Hyperemia, Blood stasis, Thrombosis, Embolism,Hemorrhage. Definition, pathogenesis, features	2
Topic no.11. Inflammation. Inflammation: definition, classification, etiopathogeny, acute phase proteins	2

Topic no.12. Fever. Definition, etiopathogeny, classification.	2
Topic no.13. Pain. Definition, etiopathogeny, types. Biomedical significance of pain.	2
Topic no.14. Polimitoza. Neoplasms: definition, classification, etiology..	2
SEMINAR/LABORATORY	Number of hours
Topic no.1. Safety rules. Introduction to pathophysiology. The role of practical work training veterinarian. Experimental methods.	3
Topic no.2. Pathogenic action of environmental factors: demonstration of hyperthermia.	3
Topic no.3. Pathogenic action of environmental factors: demonstration hypothermia.	3
Topic no.4. Pathogenic action of environmental factors: demonstration of high atmospheric pressure effects	3
Topic no.5. Pathogenic action of environmental factors: demonstration of low atmospheric pressure effects	3
Topic no.6. Pathogenic action of environmental factors: demonstration of ultraviolet radiation effects.	3
Topic no.7. Pathogenic action of environmental factors: demonstration of pilocarpine effect.	3
Topic no.8. Ischemia and hyperemia	3
Topic no.9. Stasis	3
Topic no.10. Thrombosis	3
Topic no.11. Salt fever in rabbits.	3
Topic no.12. Differentiation of exudate from transudate by reaction Rivalta.	3
Topic no.13. Demonstration of effect of inflammation on blood biochemistry	3
Topic no.14. Discussion, analysis and evaluation.	3

BIBLIOGRAPHY:

- CĂRPINISAN LILIANA – Fiziopatologie generală, Ed. Agroprint, Timişoara, 2016
- DELEANU LILIANA - Compendiu de Fiziopatologie experimentală, Ed. Agroprint, Timişoara, 2002
- POP AL., MARCUS B.I. –Fiziopatologie. Tulburări funcţionale şi mecanisme compensatorii., Ed. Risoprint Cluj – Napoca, 2001
- AVRAM N. –Compendiu de Fiziopatologie, vol. I, Ed. Fundaţiei ,,România de mâine", Bucureşti, 1999

ASSESSMENT

Activity type	Assessment criteria	Assessment methods	Percentage of final grade
Lectures	The proper use of scientific language specific for discipline in communicating information about the disease.	Formative assessment: Summative assessment- Multiple choice test	60%
	Correct explaining of common pathological processes and the interdependencies between them during a disease;		
	Originality and correctness of the arguments used to sustain or combat theories regarding general pathological processes influence on the development of the functional status of the individual		
	Demonstration of coherent thinking, scientific and logical, in exposing the phenomena studied in Pathophysiology		
Seminar/laboratory/clinical sessions	The proper use of scientific, specialized language in presenting information about		

	the experiments conducted in the laboratory		
	Applying the gained knowledge to exemplify different pathological processes, to analyze the functional status of the individual and supporting arguments regarding the development of demonstrated phenomena	Continuous assessment: 2 tests + 1 power-point presentation	30 + 10
	The ability to properly perform work models and methods specific for pathophysiology laboratory		
	Using the discipline concepts to multidisciplinary approach of the problems of animal health management		
Other activities			

Course coordinator: S. Lect. PhD. Cărpinişan Liliana
Practical activities coordinator L/S/P: S. Lect. PhD. Cărpinişan Liliana, Assist. Prof. PhD student Vizitiu Dorin Alexandru