SAS LEARNING OUTCOMES ACCORDING TO THE MODULE OF INTEREST

REPRODUCTION OF DOMESTIC ANIMALS

Upon successful completion of the course, the student should: independently diagnose physiological conditions and implement therapy of pathological conditions of the reproductive organs of domestic animals, make a diagnosis, perform therapy and apply prophylaxis of the mammary gland disease. The student should apply modern diagnostic methods in everyday clinical work, as well as ultrasonography, to select and independently perform the appropriate specialist surgical and obstetric technique on the reproductive tract and mammary gland. He should independently apply modern techniques for examining the semen of domestic animals and evaluate the semen quality. The student should select, recommend and apply a protocol for improving reproductive efficiency and analyze the effectiveness of the applied protocols, as well as to interpret and apply national and EU regulations in this field.

VETERINARY MICROBIOLOGY WITH IMMUNOLOGY

The student should be able to independently perform and apply standard and molecular methods of laboratory diagnosis of bacterial, fungal, viral and parasitic infections in animals as well as the most significant immunological methods based on antigen-antibody reactions, *in vitro* used in microbiological diagnostics to identify isolated microorganisms and to interpret the obtained results.

The student should be able to independently conduct testing of the type and number of microorganisms in food and animal feed samples.

EPIZOOTIOLOGY

Upon completion of classes as well as after successful completion of all obligations provided by the program of the module Epizootiology, the student should be able to:

- Define and rank the influence of certain epizootiological determinants on the occurrence of diseases in the animal population,
- Make a decision about the manner of influencing the factors that caused the occurrence of an infectious, parasitic disease or a disorder of health and productivity of non-infectious etiology,
- Describe and clarify the epizootiology of the most important groups of infectious diseases, including zoonoses and natural focal infections,
- Harmonize his abilities and activities with other specialties within veterinary medicine, in order to control, combat and eradication of the disease in animal populations,
- Participate in defining and proposing measures at the local, regional and national level, which are aimed at controlling, combating, and eradicating diseases in animal populations,
- Identify possible weaknesses by analyzing the measures that are being implemented in order to control, combat and eradicate the disease, and propose the correction of measures,
- By analyzing the data and results of the implemented epizootiological measures, the student should present the results of control, suppression, and eradication of infectious, parasitic, and non-infectious diseases,
- Apply ethical principles in epizootiological work and suppression of particularly dangerous infectious diseases.

VETERINARY PATHOLOGY

In addition to performing an autopsy, the student gives an opinion, correctly samples and processes tissues for microscopic examination, makes a pathomorphological and pathohistological diagnosis using standard and special histochemical methods, immunohistochemical methods, and morphometric analyzes.

Recognizes the morphological difference of important infectious diseases, degenerative and neoplastic processes. Makes a histopathological diagnosis of the tumor, determines the degree of invasiveness of the tumor, and performs immunophenotyping of lymphoma and gradation of the mastocytomas in dogs.

He has knowledge of the pathology of social animals, pathology of farm animals, experimental animals, exotic animals, pathology of flocks, herds, and animals in zoos, and knowledge in the field of comparative pathology.

FOOD HYGIENE AND TECHNOLOGY

Upon successful completion of the program, the student is expected to be able to:

- Analyze and improve animal welfare conditions important for the safety and quality of meat and milk;
- Define, develop and apply the rules of good manufacturing practice and good hygiene practice in the food production chain;
- Identify key sources of hazards (biological, chemical, and physical), assess risk, and apply adequate control measures in the food production chain;
- Know the possibilities and effects of physical, chemical and biological methods of food preservation and apply them in terms of food production and processing;
- Select and apply appropriate methods and techniques in food analysis;
- Assess food quality in a broader sense considering hygienic, technological, nutritional, sensory, and market/consumer parameters.

INTERNAL MEDICINE OF SOCIAL ANIMALS

After completing the theoretical and practical classes, the student will be able to independently recognize the symptoms of internal diseases of social animals and pathophysiological mechanisms of these diseases, make a reasonable number of possible diagnoses, apply appropriate diagnostic procedures (such as ultrasound, endoscopic and radiological diagnostics) on the basis of which an accurate diagnosis will be made, and use modern therapeutic protocols in order to cure the patient.

The specialist in internal medicine of social animals will be able to practically perform and apply the cytological diagnosis of neoplasms and select appropriate pharmacological therapeutic protocols for the most common tumors with the application of necessary safety measures, as well as to use apparatus which is used in radiotherapy of tumors. Also, the specialist will be able to make a physical therapy diagnosis, to make a prognosis of the disease, and perform physical therapy treatment.

FARM ANIMAL WELFARE

After the successful completion of the module, the student should understand the etiology and pathogenesis of farm animal diseases (ruminants, pigs, and poultry), assess the clinical course of the disease, and consider the consequences on the health and production-economic aspect. The student should understand the importance, select and use modern specialist clinical and laboratory methods of diagnosis, implement modern therapeutic, preventive, immune-prophylactic measures in the clinical pathology of farm animals. The student should analyze, link the test results, draw conclusions, and make recommendations for solving both health and biotechnological problems in farm animal breeding. Based on the analysis of production on the farm (reproductive parameters and milk parameters), analysis of nutrition, and technological procedures on the farm, the student should assess the performance of farm production and give recommendations for its improvement.

VETERINARY DIETETICS

Acquiring new skills – proper sampling of animal feed for analysis, application of appropriate laboratory techniques in order to evaluate animal feed, determination of the energy value of food, determination of buffer capacity and electrolyte balance of animal feed, self-adjustment of meals for the prevention and treatment of productive diseases of farm animals, also of dogs and cats, Understanding the connection of ingredients in animal feed (macro-, microelements, fatty acids), or understanding the connection of ingredients in animal feed or the possibility of producing designed food of animal origin in meal optimization, feeding techniques, and application of dietary measures in the diet of different animal species and product categories, as well as training for work in institutions directly related to production, trade, and food quality control for animals.

VETERINARY SURGERY

After completing the theoretical and practical classes, the student will be able to independently apply the acquired knowledge, choose the most applied technique, repair a number of surgical conditions of various animal species, such as osteofixation with wedges, wire or plates, extremity amputation, enterotomy, resolving dislocation of individual abdominal organs and remediation of multiple tissue defects. The student will also know how to perform basic surgical procedures on the joints, tendons, and acropodium, as well as biomicroscopy and ophthalmoscopy, conjunctival plastic surgery, and healing of corneal ulcers.