NATIONAL UNIVERSITY OF LIFE AND ENVIRONMENTAL SCIENCES OF UKRAINE

Department of Internal Animal Diseases

APPROVED:
Faculty of veterinary medicine
"____" _____ 2026

CURRICULUM OF ACADEMIC DISCIPLINE
CLINICAL DIAGNOSIS OF ANIMAL DISEASES (full duration of study)

Area of knowledge Veterinary medicine
Specialty _211 - "Veterinary medicine"_____
Academic program _Veterinary medicine_____
Faculty (Education and Research Institute) Internal Animal Diseases
Developed by: Andrii Zemlianskyi, Associate Professor, PhD_____
(academic degree)

KYIV – 2026

INTRODUCTION

This syllabus is developed for the academic internship in the discipline "Clinical Diagnostics of Animal Diseases" for Master's degree students of the Faculty of Veterinary Medicine at NUBiP of Ukraine, including those enrolled in full and shortened study programs (6 years, 5 years).

"Clinical Diagnostics of Animal Diseases" is the first clinical discipline in which students, applying basic, instrumental, and laboratory diagnostic methods, master the techniques and sequence of examination of individual organs and body systems in animals. They identify and analyze detected symptoms, justify the logical sequence of disease recognition, develop clinical diagnostic thinking, and prepare for professional veterinary practice.

Purpose of the internship:

To consolidate knowledge acquired during theoretical studies and to gain practical skills in clinical examination of animals.

Acquisition of Competencies:

Integral Competencies (IC):

- IC. Ability to solve complex tasks and problems in the field of veterinary medicine, which involves conducting research and/or implementing innovations, and is characterized by uncertainty of conditions and requirements.

General Competencies (GC):

- GC 1. Ability for abstract thinking, analysis, and synthesis.
- GC 2. Ability to apply knowledge in practical situations.
- GC 3. Knowledge and understanding of the subject area and profession.
- GC 7. Ability to conduct research at an appropriate level.
- GC 8. Ability to learn and master modern knowledge.
- GC 9. Ability to make reasoned decisions.
- GC 11. Ability to assess and ensure the quality of performed work.
- GC 13. Ability to make decisions and act in accordance with the principle of intolerance to corruption and any other manifestations of dishonesty and lack of integrity.

Professional (Special) Competencies (PC):

- PC 2. Ability to use instruments, special devices, equipment, laboratory tools, and other technical means to perform necessary manipulations during professional activity.
- PC 3. Ability to follow occupational safety, asepsis, and antisepsis rules during professional activities.
- PC 4. Ability to perform clinical examinations to formulate conclusions on the animal's condition or to establish a diagnosis.
- PC 6. Ability to collect, package, fix, and send biological material samples for laboratory testing.
- PC 7. Ability to organize, conduct, and analyze laboratory and special diagnostic tests.
- PC 8. Ability to plan, organize, and implement treatment measures for animals with non-contagious, infectious, and invasive diseases.
- PC 13. Ability to develop disease prevention strategies of various etiologies.

Program Learning Outcomes (PLO):

- PLO 1. Know and correctly use veterinary medical terminology.

- PLO 2. Use information from domestic and international sources to develop diagnostic, treatment, and business strategies.
- PLO 3. Understand the essence of physicochemical and biological processes occurring in the animal body in both normal and pathological conditions.
- PLO 4. Collect anamnestic data during animal registration and examination; make informed decisions regarding effective methods of diagnostics, treatment, and disease prevention.
- PLO 5. Establish the connection between clinical manifestations of diseases and laboratory findings.
- PLO 10. Propose and use appropriate innovative methods and approaches to solve professional problems.
- PLO 20. Be proficient in specialized software tools for performing professional tasks.

Day-One Competencies:

ELO 1. Demonstrate an understanding of the ethical and legal frameworks within which a veterinary medicine doctor must operate, including professional aspects, aspects related to animal welfare, animal owners, public health, and the social and environmental aspects associated with professional activities.

ELO 5. Communicate effectively with animal owners, the public, professional colleagues, and relevant authorities, using language appropriate for the respective audience and adhering to the principles of full respect for confidentiality and privacy.

ELO 7. Properly maintain clinical records and documentation for animal owners, as well as, where necessary, clinical case reports in a form satisfactory to the relevant audience.

ELO 9. Demonstrate the ability to think critically and to review and evaluate literature and presentations.

ELO 11. Demonstrate the ability to critically analyze evidence, cope with incomplete information, resolve unforeseen situations, and adapt knowledge, skills, and practical competencies to various professional situations.

ELO 14. Demonstrate commitment to lifelong learning, personal improvement, and professional development. This includes recording and reflecting on professional experience, as well as taking measures to improve professionalism and competence.

ELO 18. Conduct a complete clinical examination and demonstrate the personal ability to make independent clinical decisions.

ELO 24. Use basic diagnostic equipment and effectively conduct animal examinations according to the specific case, in compliance with good healthcare and biosecurity practices and current regulatory requirements. Understand the contribution of digital tools and artificial intelligence to the theory and practice of veterinary medicine.

2. Practical Training Bases

The academic internship will be conducted at the following locations:

- Educational and research farms of the National University of Life and Environmental Sciences of Ukraine (NUBiP) – “Velykosnitynske” named after O.V. Muzychenko and “Agronomic Research Station” – 15 hours;
- Educational and scientific laboratory of veterinary hematology at the Department of Therapy and Clinical Diagnostics – 10 hours;
- If visiting the educational and research farms is not possible, the internship will be conducted at veterinary clinics in Kyiv, the Department of Horse Breeding, racetracks,

zoos, animal shelters, or farms of various ownership forms, provided they meet the conditions for practical training as outlined in this program.

3. Organization of the Internship

The academic internship in the discipline "Clinical Diagnostics of Animal Diseases" is aligned with the university's academic curriculum and conducted in accordance with the Regulation on Academic Internships for Students of Higher Education Institutions of Ukraine that provide training in veterinary medicine.

Under the guidance of instructors, students carry out clinical examinations of sick animals to identify symptoms and syndromes of diseases. At the same time, they acquire skills in animal handling and restraint techniques.

Each student group is supervised by two instructors, which is essential for fulfilling the internship objectives and ensuring safety when working with farm animals.

The primary organizational format for student work during the internship is team-based. Teams consist of 4–5 members. Team leaders are selected from among the most prepared students. They assist instructors in managing and conducting the internship.

Team leaders receive consultations from the instructors and then provide guidance to their own team members. Before the internship begins, instructors conduct a safety briefing on animal handling and explain the structure and objectives of the internship, assigning tasks to each team.

Veterinary specialists from the farms and laboratory staff also participate in the organization and implementation of the internship.

4. Internship Content

The internship content focuses on students acquiring skills in animal handling and restraint techniques, which are essential for conducting diagnostic procedures as well as therapeutic and preventive measures.

APPROXIMATE THEMATIC PLAN OF THE INTERNSHIP

Topic No.	Topic Title	Total Hours	Including Classroom:
1	Preliminary information about the sick animal: registration, anamnesis collection	2	2
2	Examination of the general condition of the animal: assessment of habitus, hair coat, skin, lymph nodes, temperature measurement	6	6
3	Examination of individual organs and systems: cardiovascular system	4	4
4	Examination of the respiratory and digestive systems	4	4
5	Examination of the urinary and nervous systems	4	4
6	Examination of the blood system	3	3
–	Completion of the internship diary based on examination results of the sick animal	2	2
Total		**25**	**25**

4.1. Individual Training Sessions

Each student, working in subgroups, must:

- Learn to approach animals correctly and, if necessary, apply appropriate restraint techniques to ensure safe handling;
- Master the clinical examination protocol for animals;
- Practice general methods of animal examination – inspection, palpation, percussion, auscultation, and thermometry;
- Practice methods of visual diagnostics;
- Conduct general and system-specific examinations of animal organs;
- Acquire skills in collecting blood and urine samples;
- Master techniques for studying the physicochemical and morphological properties of biological fluids (blood, urine) in both clinically healthy and sick animals;
- Analyze and interpret the obtained research results;
- Develop clinical thinking and a creative approach to solving practical problems in animal disease diagnostics;
- Communicate effectively with colleagues and support staff on professional matters, both in written and oral form;
- Accurately document research results.

4.2. Methodological Guidelines

Each student receives a diary for the academic internship in the discipline "Clinical Diagnostics of Animal Diseases," where they must record the results of their own examinations and research performed on animals.

APPROXIMATE THEMATIC PLAN FOR FIELD TRIPS

Topic Title	Location of Classes	Number of Hours
Educational Practice in the Discipline “Clinical Diagnostics of Animal Diseases” (the topics are reflected above in the tentative thematic practice plan)	Veterinary clinics “ZOOLUX”, “ALDENVET”, "Velykosnytynske" named after O.V. Muzychenko, "Agronomic Research Station"	25

4.3. Material, Technical, and Educational-Methodical Support for Student Practice

For the completion of the practical training in the discipline "Clinical Diagnosis of Animal Diseases," students are provided with: thermometers, plethysmographs and percussion hammers, stethophones, probes for various types of animals, tools for animal restraint and handling, means for laboratory diagnostics of biological materials, personal hygiene supplies, and a medical first aid kit.

4.4. Educational-Methodical Support

During the practical training, students can use the following educational and methodological materials of the department:

1. Clinical diagnosis of animal diseases: Manual / M.I. Tsvilikhovskii, O.M. Yakymchuk, M.O. Maryniuk, A.O. Zemlianskyi. Kyiv : NUBiP Ukraine, 2024. 340 p.
2. Radiological Examination of Animal Hearts: Methodical Guidelines for the Training of Master's Degree Specialists in Veterinary Medicine. Tsvilikhovskyi M.I., Yakymchuk O.M., Kostiuk O.S., Marinyuk M.O., Bondar V.O., Ivanchenko N.Yu., Yakymchuk I.M., Obruch M.M. Kyiv, "CP Komprint", 2017. 28 pages.

3. Modern Methods of Heart Examination. Tsvilikhovskyi M.I., Yakymchuk O.M., Marinyuk M.O., Kostiuk O.S., Yakymchuk I.M. Kyiv, "CP Komprint", 2020.
4. Diagnosis of Cardiovascular Diseases. Tsvilikhovskyi M.I., Yakymchuk O.M., Marinyuk M.O., Yakymchuk I.M. Kyiv, "CP Komprint", 2020.
5. Modern Electrocardiography of Animals. Tsvilikhovskyi M.I., Yakymchuk O.M., Marinyuk M.O., Kostiuk O.S., Yakymchuk I.M. Kyiv, "CP Komprint", 2020.
6. Diagnosis of Respiratory System Diseases in Animals. Tsvilikhovskyi M.I., Yakymchuk O.M., Marinyuk M.O., Yakymchuk I.M. Kyiv, "CP Komprint", 2020.
7. Endoscopy of the Digestive System Organs in Domestic Animals. Tsvilikhovskyi M.I., Yakymchuk O.M., Kostenko V.M., Grushanska N.H., Omelchun S.I. Kyiv, "CP Komprint", 2020. 19 pages.
8. Animal Heart Diseases (Questions and Answers). Paliukh T.A., Nemova T.V., Pavelytsia O.O., Bereza V.I., Tsvilikhovskyi M.I. Kyiv, "CP Komprint", 2020.
9. Laboratory Equipment and Features of Blood Sampling in Various Animal Species for Hematological Studies. Boiko N.I., Nemova T.V. Komprint, 2021. 21 pages.
10. Counting the Number of Erythrocytes in Different Animal Species and Their Interpretation. Boiko N.I., Nemova T.V., Boiko H.V. Komprint, 2021. 19 pages.
11. Counting the Number of Leukocytes in Different Animal Species and Their Interpretation. Boiko N.I., Nemova T.V., Drobot M.V. Komprint, 2021. 21 pages.
12. Counting the Number of Thrombocytes in Different Animal Species and Their Interpretation. Boiko N.I., Nemova T.V., Paliukh T.A. Komprint, 2021. 26 pages.
13. Clinical and Laboratory Changes in the Organism of Dogs and Cats in Urinary System Pathologies. Tsvilikhovskyi M.I., Yakymchuk O.M., Marinyuk M.O., Yakymchuk I.M., Yakymchuk M.S. Kyiv, "CP Komprint", 2021. 42 pages.
14. Changes in Blood Parameters of Animals with Pathologies. Tsvilikhovskyi M.I., Yakymchuk O.M., Marinyuk M.O., Yakymchuk I.M. Kyiv, "CP Komprint", 2022. 49 pages.
15. Diagnosis of Heart Defects. Methodical Guidelines for Laboratory and Independent Work in the Discipline "Clinical Diagnosis of Animal Diseases." Tsvilikhovskyi M.I., Yakymchuk O.M., Marinyuk M.O., Yakymchuk I.M. Kyiv, CP "Komprint", 2023. 24 pages.

5. Forms and Methods of Control

At the end of each practice day, students submit to the instructor the results of their own research and analysis. At the end of the practical training, students submit a completed diary and defend the results of their research. After completing individual assignments and fully filling out the practical training diary, the student receives a credit.

6. Requirements for Writing the Report

The practical training diary must be completed according to the requirements presented in it, including a full analysis of the results of the sick animal's examination and the student's own conclusions. During the credit assessment, it is necessary to explain the presented results.

7. Summarizing the Practice

The summary of the practice is conducted according to the academic schedule in accordance with the order of the Faculty Dean's Office of the Faculty of Veterinary Medicine of NUBiP Ukraine.

Information Sheet

on the Completion of Assignments During the Practical Training in the Discipline Clinical Diagnosis of Animal Diseases Master's Degree Student ___ year _____ group Faculty of Veterinary Medicine, NUBiP Ukraine

Place of Practice: _____

Practice Period: _____

Practice Results

No.	Task Name	Quantity
1.	Completed the following tasks:	
	a)	
	b)	
	c) …	
2.	Acquired skills:	
	a)	
	b)	
	c) …	
3.	Conducted research work on the topic:	

Practice Evaluation: _____

Practice Supervisor: _____