

# SYLLABUS OF THE EDUCATIONAL COMPONENT



## VISUAL DIAGNOSIS IN VETERINARY MEDICINE

|                     |                         |                      |                                                     |
|---------------------|-------------------------|----------------------|-----------------------------------------------------|
| Specialty           | 211 Veterinary medicine | mandatory discipline | optional                                            |
| Educational program | veterinary medicine     | faculty              | veterinary medicine                                 |
| Educational level   | Master's degree         | department           | internal diseases and clinical diagnosis of animals |

### Teacher

#### Kibkalo Dmytro Viktorovich



Higher education is a specialty veterinary medicine  
 Scientific degree - Doctor of Veterinary Sciences in the specialty 16.00.01 -diagnosis and animal therapy  
 Scientific title is a professor  
 Work experience is 20 years old  
 Indicators of professional activity on the subject matter of the course:

- author of 3 monographs more than 30 publications;
- experience of scientific work 23 years;
- Co-author 7 publications in Scopus and Web of Science.
- a participant of scientific conferences
- Head of Research.

|       |  |        |                     |                |        |
|-------|--|--------|---------------------|----------------|--------|
| phone |  | e-mail | diagnost_96@ukr.net | remote support | Moodle |
|-------|--|--------|---------------------|----------------|--------|

Natalia Alexandrovna Kravchenko is involved in teaching the discipline

## GENERAL INFORMATION ABOUT THE EDUCATIONAL COMPONENT

|                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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| Aim                                                      | Mastering the necessary theoretical knowledge and practical skills and skills in conducting radiological and ultrasound examination of animals and interpreting the results obtained in the previous diagnosis.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Form                                                     | lectures, practical classes, independent work, individual tasks.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Detailing of learning results and forms of their control | <ul style="list-style-type: none"> <li>the ability to abstract thinking, analysis and synthesis of information obtained by radiological, ultrasound or other visual research methods (GC1) / <b>Individual interview.</b></li> <li>Ability to use an X-ray apparatus, ultrasound scanner, otolarinoscope to conduct the necessary animal studies during professional activity. (SC2) / <b>Practical tasks.</b></li> <li>determine the essence of physicochemical and biological processes that occur in the body of animals in normal and by pathology based on the results of the study of the animal by visual methods of diagnosis (PLO3) / <b>Practical tasks.</b></li> <li>• collect anamnestic data for ultrasound or radiological examination of animals, make decisions on the choice of effective methods of diagnosis, treatment and prevention of animal diseases (PLO4) / <b>Clinical cases, practical tasks.</b></li> <li>• formulate conclusions on the effectiveness of selected methods and means of maintenance, feeding and treatment of animals, prevention (PLO7) <b>Clinical cases, practical tasks.</b></li> </ul> |
| Scope and forms of control                               | 3 credits ECTS (90 hours): 14 hours of lectures, 30 hours laboratory-practical; 46 hours of independent classes, current control (2 sections); Final control - differentiated credit.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Requirements of the teacher                              | Performing tasks and mastering the course material                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Enrolment conditions                                     | «Free enrolment»                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

## COMPLEMENTS THE STANDARD OF EDUCATION AND EDUCATIONAL PROGRAM

|              |                                                                                                                                                                                                                                                |                           |                                                                                                                                                                                                                                                                                                                                   |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Competencies | GC1 The ability to abstract thinking, analysis and synthesis<br>SC2. Ability to use tools, special devices, devices, laboratory equipment and other technical means for carrying out the necessary manipulations during professional activity. | Program learning outcomes | PLO3. To determine the essence of physicochemical and biological processes that occur in the body of animals in normal and in pathology.<br>PLO4. Collect anamnestic data during the registration and examination of animals, decide on the choice of effective methods of diagnosis, treatment and prevention of animal diseases |
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## STRUCTURE OF THE EDUCATIONAL COMPONENT

| Chapter 1. Veterinary X-ray |                                        |       |                                           |  |                                                                                             |
|-----------------------------|----------------------------------------|-------|-------------------------------------------|--|---------------------------------------------------------------------------------------------|
| Lecture 1                   | Fundamentals of radiological diagnosis | LPC 1 | Arrangement of a cabinet X-ray, obtaining |  | X-ray properties and radiographic quality<br>Viewing webinar interpretation of radiological |

|                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |        |                                                                                    |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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| Lecture 2                                     | Veterinary radiology                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |        | a X -ray image                                                                     | Independent work   | studies<br>Viewing Webinar interpretation of radiological examinations of the chest cavity<br>Viewing Webinar interpretation of radiological examinations of the abdominal cavity<br>Viewing Webinar interpretation of radiological studies of bone structures<br>MRI and CT Diagnosis of small animals                                                                                                                                     |
| Lecture 3                                     | MRI and CT diagnostics                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | LPC 2  | X -ray projections and patient stacking                                            |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | LPC 3  | X -ray examination of the heart and blood vessels                                  |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | LPC 4  | X -ray examination of the respiratory system                                       |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | LPC 5  | X -ray examination of abdominal organs                                             |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | LPC 6  | X -ray examination of the spine, bones and joints                                  |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| LPC 7                                         | MRI and CT scan of small animals                                                                                                                                                                                                                                                                                                                                                                                                                                                           |        |                                                                                    |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Chapter 2. Veterinary ultrasound              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |        |                                                                                    |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Lecture 4                                     | The principles of ultrasound                                                                                                                                                                                                                                                                                                                                                                                                                                                               | LPC 8  | Arrangement of ultrasound of the cabinet, technique of ultrasound of small animals | Independent work   | Viewing the webinar ultrasound of the bladder<br>View the webinar ultrasound of the kidneys<br>Viewing webinar ultrasound of the liver and spleen<br>View the webinar ultrasound of the stomach and intestine<br>Viewing the webinar ultrasound of the heart and vessels<br>View the webinar ultrasound of the female reproductive system. Viewing webinar ultrasound of the male reproductive system<br>View Webinar ultrasound of tumours |
| Lecture 5                                     | Methods of ultrasound                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | LPC 9  | Ultrasound of the bladder                                                          |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Lecture 6                                     | Ultrasound of tumours and artefacts                                                                                                                                                                                                                                                                                                                                                                                                                                                        | LPC 10 | Kidney ultrasound                                                                  |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | LPC 11 | Ultrasound of the liver and spleen                                                 |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | LPC 12 | Ultrasound of the stomach and intestine                                            |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | LPC 13 | Ultrasound of the heart and blood vessels                                          |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | LPC 14 | Ultrasound of the reproductive system                                              |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| LPC 15                                        | Ultrasound of tumours                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |        |                                                                                    |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| BASIC LITERATURE AND METHODOLOGICAL MATERIALS |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |        |                                                                                    |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Basic literature                              | 1. Thrall, D. E., & Robertson, I. D. (2022). Atlas of Normal Radiographic Anatomy and Anatomic Variants in the Dog and Cat-E-Book. Elsevier Health Sciences.<br>2. Muhlbauer, M. C., & Kneller, S. K. (2024). Radiography of the dog and cat: guide to making and interpreting radiographs. John Wiley & Sons.<br>3. Mattoon, J. S., & Nyland, T. G. (2020). Fundamentals of diagnostic ultrasound. Small Anim Diagnostic Ultrasound Mattoon, 3rd ed.; Mattoon, JS, Nyland, TG, Eds, 1-49. |        |                                                                                    | Methodical support | Electronic course of Visual Diagnosis in Veterinary Medicine in Moodle                                                                                                                                                                                                                                                                                                                                                                      |

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|-------------------------------------------------------------------------------------------------------------------------------|--|--|
| 4. Mattoon, J. S., Sellon, R. K., & Berry, C. R. (2020). Small animal diagnostic ultrasound e-book. Elsevier health sciences. |  |  |
| 5. Ensminger, D., & Bond, L. J. (2024). Ultrasonics: fundamentals, technologies, and applications. CRC press.                 |  |  |

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| EVALUATION SYSTEM |  |  |  |
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| SYSTEM                                         |                            | SCORE  | ACTIVITY TO BE EVALUATED                                                 |
|------------------------------------------------|----------------------------|--------|--------------------------------------------------------------------------|
| Final assessment (differentiated credit, exam) | 100-point ECTS (standard)  | до 100 | 40% – final testing,<br>60% – student’s ongoing work during the semester |
| Final assessment (non-graded)                  | 100-point ECTS (standard)  | до 100 | 100% – averaged score for all course sections                            |
| Section Assessment                             | Cumulative 100-point scale | до 30  | 30% – answers to test questions                                          |
|                                                |                            | до 30  | 30% – performance on the independent study block                         |
|                                                |                            | до 40  | 40% – student activity during classes (oral responses)                   |

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| NORMS OF ACADEMIC ETHICS AND CHARITY |  |  |  |
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| <p>All participants in the educational process (including those seeking education) must adhere to the code of academic integrity and the requirements prescribed in the provision "On academic integrity of participants in the educational process of DBTU": show discipline, education, respect each other's dignity, show kindness, honesty, responsibility.</p> |
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