

## Annotation of compulsory educational component «Animal physiology»

<b>Subjects</b>	<b>Animal physiology</b>
<b>Teacher</b>	Lyudmila Stepanivna Stovbetska Candidate of Veterinary Sciences, Associate Professor of the Department of Normal and Pathological Physiology of Animals
<b>Course and semester in which the discipline is planned to be studied</b>	1st year, 2nd semester
<b>Faculties whose students are invited to study the discipline</b>	Biological-technological
<b>List of competencies and relevant learning outcomes provided by the discipline</b>	<p>According to the requirements of the educational-professional program "Technology of production and processing of livestock products" applicants must acquire the ability to obtain the following competencies:</p> <p>GC 3 (general competence). Ability to apply knowledge in practical situations.</p> <p>GC 4. Knowledge and understanding of the subject area and understanding of professional activity.</p> <p>PC 2 (professional competence). The ability to use of modern knowledge about methods of reproduction, patterns of individual development and breeding of animals for effective professional activity in the field of animal husbandry.</p> <p>PC 10. The ability to apply knowledge of the morphology, physiology and biochemistry of various species of animals to implement effective technologies for the production and processing of their products.</p> <p>The result of studying the discipline is the students' acquisition of such knowledge and skills:</p> <ul style="list-style-type: none"> <li>• to ensure the quality of work performed (to know the peculiarities of the structure and functioning of tissues, organs and systems in various species of animals and poultry; to evaluate the course of physiological processes and mechanisms of their regulation in various organs and organ systems of clinically healthy animals; to analyze and compare the obtained results of laboratory and functional studies with the limits of the physiological norm, which are inherent in different types of animals);</li> <li>• to search, process and generalize information with the use of modern information technologies (to have the methods of researching morpho-functional indicators of blood (the number of erythrocytes, leukocytes, platelets, leukogram, ESR, color index, hemoglobin content of protein in blood plasma, blood pH), determination of pulse rate, respiration, body temperature, composition of urine, milk, colostrum, gastric juice and bile, determination of motor activity of the digestive tract).</li> </ul>
<b>Description of the discipline</b>	
<b>Prerequisites required for the study of the discipline</b>	The discipline "Animal Physiology" is based on the knowledge of the following disciplines: " Animal Morphology", "Chemistry", studied in the first semester, and "Biology", studied at school.

<b>The maximum number of students who can study at the same time</b>	65 students
<b>Topics for the auditorial lessons</b>	<p><b>Topics of the Lectures:</b></p> <ol style="list-style-type: none"> <li>1. Introduction. The concept of the blood system.</li> <li>2. Physiology of the cardiovascular system.</li> <li>3. Functional characteristics of blood vessels.</li> <li>4. General characteristics of fabrics. Classification irritants.</li> <li>5. General ideas about higher and lower nervous activity.</li> <li>6. General properties of analyzers.</li> <li>7. The essence of the digestion process.</li> <li>8. Digestion processes in the multichamber stomach of ruminants animals.</li> <li>9. The essence of the breathing process and its mechanism.</li> <li>10. Physiology of allocation processes and its significance for body. Kidney and skin physiology.</li> <li>11. Sexual and physiological maturity of females and males. Physiology their reproductive organs.</li> </ol> <p><b>Topics for the Seminar Lessons:</b></p> <ol style="list-style-type: none"> <li>1. Introduction. Familiarization with the methods of physiological research. Correlation and relationship of constituent parts of blood.</li> <li>2. Physiological significance of erythrocytes and leukocytes in the blood of animals. Blood groups.</li> <li>3. Physiological properties of the heart muscle. Mechanisms of heart activity regulation. The role of the pumping function of the heart.</li> <li>4. Dynamics of heart excitation. Registration and analysis of the electrocardiogram. Physiological laws of hemodynamics.</li> <li>5. Physiology of excitable tissues and the central nervous system. The mechanism of skeletal muscle contraction. Work and theories of skeletal muscle fatigue</li> <li>6. Reflexes of the spinal cord. Properties of nerve centers. Nervous regulation of muscle tone.</li> <li>7. Complex-reflex activity of the nervous system. Physiological bases of behavior.</li> <li>8. Visual sensory system, auditory sensory system.</li> <li>9. Mechanism of saliva secretion. Enzymatic properties of saliva.</li> <li>10. The role of bile and pancreatic juice in digestive processes. Motor activity of the digestive tract. Digestion processes in the multichambered stomach of animals.</li> <li>11. Mechanism of respiratory movements. Lung volumes and capacities.</li> <li>12. Mechanism of urine formation.</li> <li>13. Mechanisms of regulation of sexual functions in animals. Sexual reflexes and animal behavior.</li> <li>14. Regulation of milk secretion.</li> </ol>
<b>Teaching languages</b>	Ukrainian, English