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| **STUDY PROGRAMME:** | **Professional Undergraduate Study Programme *Agriculture*** Specific field of study: Zootechnics |
| **Course:** | **CATTLE ANATOMY AND PHYSIOLOGY** |
| **Course code:** 273299**Course status**: compulsory | **Semester: III** | **ECTS credits: 4,5** |
| **Course holder:**  | **Tatjana Tušek,** Ph. D., professor of professional studies |
| **Modes of delivery:** | **Number of hours**  |
| Lectures | 30 |
| Excersises, | 24 |
| Seminars | 6 |

**Course objectives:** enable the students to independently describe and explain morphological characteristics in constitution of individual domestic mammals and poultry within the framework of anatomy. Functioning of organisms, tissues and cells will be defined by students through physiological processing of digestion, metabolism and reproduction of domestic mammals and poultry with specific neuro-hormonal management of all biochemical processes in the organism.

**Course content**

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|  |  | **Modes of delivery:** | **Places of delivery** |
|  | **Course units**  | **L, E, S, PT** |
|  | ***Concept of anatomy and physiology***, familiarization with the concept of the course. Anatomical nomenclature. Planes of the body. | 1 L | Classroom |
|  | ***Introduction to the digestive system*** | 1 L | Classroom |
|  | ***Digestive system*** | 4 L | Classroom |
|  | ***Neuro-hormonal system*** | 1 L | Classroom |
|  | ***Specificities in the anatomy of mammals*** | 2 L | Classroom |
|  | ***Specifics of the anatomy of poultry*** | 2 L | Classroom |
|  | ***Comparative anatomy of poultry*** | 1 L | Classroom |
|  | ***Digestion in the simple stomach*** | 2 L | Classroom |
|  | ***Digestion in the complex stomach*** | 2 L | Classroom |
|  | ***Digestion in the small and large intestines,*** the role of the liver and pancreas. Metabolism of carbohydrates, fats and proteins | 6 L | Classroom |
|  | ***Physiology of cells and cell organelles*** | 1 L | Classroom |
|  | ***Physiology of reproduction, pregnancy and lactation***, neuro-hormonal regulation of processes in the body | 6 L | Classroom |
|  | ***Ecophysiology***: the impact of noise and light pollution on physiological processes | 1 L | Classroom |
|  | ***Anatomical terminology and topographic orientation.*** Large body cavities and topographic arrangement of organs***.*** | 1 E | Practicum |
|  | ***Areas of the head, neck, chest and back.*** | 3 E | Practicum |
|  15.1. | ***Independent work of students and reproduction of the material covered.*** | 1 E | Practicum |
|  16. | ***Abdomen, pelvis and leg areas.*** | 3 E | Practicum |
|  16.1. | ***Independent work of students and reproduction of the material covered.*** | 1 E | Practicum |
|  17. | ***Axial and visceral skeleton.*** | 3 E | Practicum |
|  17.1. | ***Independent work of students and reproduction of the material covered.*** | 1 E | Practicum |
|  18. | ***Appendicular skeleton.*** | 3 E | Practicum |
|  18.1. | ***Independent work of students and reproduction of the material covered.***  | 1 E | Practicum |
|  19. | ***Connections of bones and muscles of the body.*** | 2 E | Practicum |
|  19.1. | ***Independent work of students and reproduction of the material covered.*** | 1 E | Practicum |
|  20. | ***Colloquium on movement systems.*** | 2 E | Practicum |
|  21. | ***Topic of the seminar I.*** | 1 S | Classroom |
|  22. | ***Topic of the seminar II.*** | 1 S | Classroom |
|  23. | ***Laboratory exercises in the physiology of digestion.*** | 2 E | Laboratory |
|  24. | ***Assignment from the results of laboratory exercises -*** defense of the obtained results. | 1 E | Laboratory |
|  25. | ***Assignment from the results of laboratory exercises -*** defense of the obtained results. | 1 E | Laboratory |
|  26. | ***Topic of seminar III.*** | 1 S | Classroom |
|  27. | ***Topic of seminar IV.*** | 1 S | Classroom |
| **In total** | **30+24+6** **(L+E+S)** |  |

**L=Lectures, E=Excersises, S=Seminars**

**Learning outcomes (LO)**

LO 1. Present anatomical and topographic terminology on a living animal or teaching prop.

LO 2. Classify areas and organic systems and connect specifics in structure between species of domestic mammals and poultry.

LO 3 Create a link between life processes and reactions of domestic animals to their environment.

LO 4. Compare the specificities of ruminant, non-ruminant and poultry digestion.

LO 5. Determine the specifics of metabolism in ruminants, non-ruminants and poultry.

LO 6. Assess the laws and physiological specifics of reproduction of ungulates, carnivores and poultry.

Course holder:

Tatjana Tušek, Ph. D., professor of professional studies

Križevci, July 2024