Annotation of compulsory discipline

Academic discipline	**Livestock wastes and their processing**
Tutor	**Les Stanislav Anatoliovych** Phd in agriculture, assistant Department of safety and quality of food products, raw materials and technological processes
Courses and semesters, when the discipline is planning to study	2nd course (master degree), 3d semester
Faculties whose students are invited to study discipline	Biological-technological faculty
List of competencies and learning outcomes provided by the discipline	According to the requirements of the educational and professional program "Technology of production and processing of animal husbandry products", applicants must acquire the following competencies: GC 1 (general competence). Ability to abstract thinking, analysis and synthesis. PC 2. (professional competence). The ability to develop, organize and carry out measures to increase the productivity of animals, control the safety and quality of products of their processing and the efficiency of its production. PC 7. Ability to create and apply systems and methods of processing products of animal origin. PC 10. The ability to clearly and unambiguously convey one's own knowledge, conclusions and arguments to specialists and non-specialists, in particular to students. The result of studying the discipline is the students' acquisition of such knowledge and skills: - to develop, implement and modernize effective technologies and processes in the field of production and processing of animal husbandry products (to know the methodology and measures for conducting research on the utilization or processing of biological waste at the appropriate level; to know the methodology and measures for conducting research on the utilization or processing of animal husbandry waste (manure, droppings)); - to carry out research and/or carry out innovative activities in order to obtain new knowledge and create new technologies and products in the field of animal husbandry and in wider multidisciplinary contexts (to be able to combine information and communication technologies; to know technologies for processing animal husbandry waste using vermiculture, synanthropic flies, etc.); - to search for the necessary data in the scientific literature, databases and other sources, analyze and evaluate these data (to know the methods of livestock waste processing and influence compliance with the requirements for environmental protection using waste-free or low-waste livestock waste processing technologies, while applying and finding modern ideas with the help of Internet sources, etc.); - to make effective decisions on the production and processing of livestock products, including in difficult and unpredictable conditions, forecast their development, determine factors affecting the achievement of set goals, analyze and compare alternatives, assess risks and likely consequences of decisions (to be able to combine abstract thinking with the analysis and synthesis of technological processes in the processing of livestock waste);

	- to be responsible for the development of professional knowledge and practices, evaluation of the strategic development of the team, formation of an effective personnel policy (to know the main directions and prospects for the development of animal husbandry waste disposal; to be able to apply foreign experience in animal husbandry waste processing).
Description of the discipline	
Preconditions necessary for the study of discipline	Compulsory discipline "Livestock wastes and their processing" is one of the disciplines in master's degree course of higher education in specialty 204 - Technology of production and processing of animal husbandry products. It is based on the knowledge of such disciplines as "Feeding of farm animals", "Technology of production of poultry products", "Technology of production of milk and beef", "Technology of production of pig products", "Technology of processing of livestock products", studied at the first (bachelor's) level of higher education.
Maximum number of students who can study simultaneously	75
Lesson plans	**Lectures** 1. Content and meaning of the subject. 2. Decline, remnants of processing enterprises. 3. Manure biomass, urine. 4. Disposal methods. 5. Chemical and physical disposal methods. 6. Methanogenesis, vermiculture. 7. Use of manure biomass. 8. Use of meat, meat-and-bone, bone, feather, blood and fish meal. 9. Application of biohumus, biomass of unicellular algae, biogas. **Practical classes** 1. Ecological approaches to disposal of livestock waste. 2. Veterinary and sanitary approaches to the disposal of livestock waste. 3. Characteristics of residues of processing enterprises. 4. Comparative evaluation of manure biomass of cattle, pigs and poultry droppings. 5. Biothermal pits, livestock burial grounds. 6. Biogas plants. Calculation of biogas plant capacities. 7. Farm design. 8. Chemical and enzymatic hydrolysis of livestock waste, heat generators. 9. Production of meat, meat-and-bone, bone, feather, blood and fish meal. 10. Norms of applying organic fertilizers and soil fertility. 11. Characteristics of meat, meat and bone, feather, blood and fish meal. 12. Operation of gas generators, heat generators, electric generators on fuel obtained from livestock waste.
Language	Ukrainian