Abstract of the optional educational component

Name of the discipline	**Modeling of technological processes in animal husbandry**
Lecturer	**Kosior Lesia Tarasivna** Candidate of agricultural sciences, Associate Professor of the Department of Milk and Meat Production Technology
Course and semester in which it is planned to study the discipline	Master's level of higher education, 2nd semester
Faculties whose students are invited to study the discipline	Biological-technological faculty
A list of competences and relevant learning results provided by the discipline	According to the requirements of the educational and professional program "Technology of production and processing of livestock products", applicants must acquire the ability to acquire the following competencies: GC 1. Ability to abstract thinking, analysis and synthesis. GC 2. Skills in using information and communication technologies. PC 2. The ability to develop, organize and implement measures to increase the productivity of animals, control the safety and quality of products of their processing and the efficiency of its production. PC 4. Ability to model and design technological processes of production and processing of animal origin products. PC 5. The ability to organize business and financial activities and evaluate the economic efficiency of production and processing of products of animal origin. PC 10. The ability to convey one's own knowledge, conclusions and arguments to specialists and non-specialists, clearly and unambiguously in particular to people who are studying. The result of studying the discipline is the acquisition by students of the following knowledge and skills: - to develop, implement and modernize effective technologies and processes in the field of production and processing of livestock products (to develop, modernize and implement more effective technological processes in the production and processing of livestock products); - 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 design and manage the technological process of production of animal husbandry products taking into account ethological research, with the aim of creating new innovative technologies) ; - to apply modern mathematical methods, information technologies and specialized software for research and development in the field of technologies for the production and processing of livestock products (to apply modern software for conducting research in animal husbandry with the aim of obtaining reliable indicators; to process statistically obtained results of scientific research using information technologies); - to search for necessary data in scientific literature, databases and other sources, analyze and evaluate data (to use scientific metric databases to search, evaluate and analyze literary sources); - to build and research models of technological processes of

	production and processing of animal husbandry products, evaluate their adequacy, determine limits of applicability (to build a model taking into account the peculiarities of technological processes of production and processing of animal husbandry products); - to make effective decisions on 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 make effective solutions in difficult, unpredictable conditions, ensuring effective, uninterrupted and safe operation of mechanisms and equipment in the production and processing of livestock products).
Description of the discipline	
Previous conditions which are necessary for the study of the discipline	The selective educational component "Modeling of technological processes in animal husbandry" is based on the knowledge of such disciplines as "Feeding of agriculture animals", "Hygiene and welfare of animals", "Design and construction of enterprises for the production and processing of livestock products", "Technology of milk and beef production", "Economics and management of enterprises", "Marketing and logistics in animal husbandry" studied in previous courses.
The maximum number of students who can study at the same time	25 students
Topics of in-class activity	**Topics of lectures** 1. Modeling as a method of scientific knowledge and a tool for managing the technological process in animal husbandry. 2. Technological processes and systems. Production process. 3. Sketch modeling of the technological process. 4. Operational and post-operational modeling of the technological process. 5. General characteristics of technological processes at livestock enterprises. 6. Modeling technological processes of milk and beef production. 7. Peculiarities of modeling technological processes in pig breeding, sheep breeding, poultry farming, etc. branches of animal husbandry. **Topics of practical classes** 1. Modeling of technological processes of replacement heifers. 2. Modeling of the growth program and average annual population. 3. Determining the need for feed and nutrients. Modeling milking of primiparous cows. 4. Economic evaluation of various models of breeding replacement heifers and obtaining primiparous cows. 5. Modeling of technological processes of beef production. Determination of the technological scheme and organizational modes of the milk production process (sketch modeling). 6. Modeling the efficiency of milk production depending on the increase in the milk productivity of cows and changes in the mass fraction of fat and protein in it. 7. Modeling of the method of untethered keeping of cows. 8. Development of a growth model for animals taking into account their achievement of the planned final live weight at the determined age.
Language of teaching	Ukrainian