Annotation of elective educational component
«Modeling of technological processes of animal feeding»

Academic discipline	Modeling of technological processes of animal feeding
Tutor	Tytariova Olena Mykhailivna PhD agricultural sciences, associate professor, department of technology of feed, feed additives and feeding of animals
Courses and semesters, when the discipline is planning to study	2 course (master degree), 3 semester
Faculties whose students are invited to study discipline	Biological-technological faculty
The list of competences andcorresponding results of training that is provided bydiscipline	According to the requirements of the educational-professional program "Technology of production and processing of livestock products" applicants should acquire the ability to obtain the following competencies: GC 1 (general competence). Ability to abstract thinking, analysis and synthesis. GC 2. Skills in using information and communication technologies. PC 4 Ability to model and design technological processes of production and processing of products of animal origin (professional competence). PC 10. The ability to clearly and unambiguously convey one's own knowledge, conclusions and arguments to specialists and non-specialists, 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 evaluate and ensure the quality and safety of technologies for the production of livestock products, fodder and feed products, animal nutrition levels and products of animal origin (to know technological operations in livestock production and combine them with the physiological needs and features of the animal body; to be able to analyze the course of technological operations and develop measures to their improvement); - 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 know the main resources of modern useful information on the technology of production of livestock products;

	to know classical and alternative theories and concepts of animal feeding; to be able to apply new technical and software developments when designing technological operations of animal feeding; to be able to apply new technical and software developments when planning changes in animal feeding technology); - to search for the necessary data in scientific literature, databases and other sources, analyze and evaluate these data in order to find modern feeding standards for animals of various species and groups, the nutritional value of fodder, etc.; to be able to analyze the advantages and disadvantages of fodder, equipment and nutrients); - to build and research models of technological processes of production and processing of livestock products, evaluate their adequacy, determine the limits of applicability (to know the algorithm for building mathematical models; to be able to set problems, develop schemes and research simulated systems).of animal husbandry products).
Description of discipline	
Preliminary conditions necessary for studying of discipline	The optional educational discipline "Modeling of technological processes of animal feeding" is based on the knowledge of such disciplines as "Technology of fodder and animal nutrition", "Software management of processes in the industry", "Innovative technologies for the production of livestock products".
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 feeding animals. 2. The main stages of simulation. Scheme. Research of the simulated system and problem statement. 3. Mathematical methods and models as a means of making effective decisions. 4. Principle of construction of mathematical model of ration optimization for different species of agricultural land. animals 5. Features of construction of a mathematical model for optimizing the composition of compound feed for animals. 6-7.Specifics of modeling of technological processes of cattle feeding. 8. Features of modeling of technological processes of feeding of pigs

	9. Features of simulation of technological processes of sheep feeding.
	10. Features of simulation of technological processes of horse feeding.
	11. Features of simulation of technological processes of poultry feeding.
	12. Features of simulation of technological processes of fish feeding.
	13. Features of simulation of technological processes of fur animal feeding.
	14. Use gadgets to quickly solve technological issues of animal feeding.
	Topics of practical classes
	1-2. Familiarization with the method of solving optimization problems of linear programming in the environment of EXCEL.
	3-4. Development of models for optimization of rations for different types of animals and their solution using programs on the PC on an example of the problem of optimizing rations for cows.
	5-6. Development of models for optimizing the composition of recipes for mixed fodders for different types of animals and solving them using programs on the PC.
	7. Development of optimization models for ration for cattle and their solution using programs on a PC.
	8. Development of models of optimization of rations for pigs and their solution using programs on a PC.
	9. Development of models for ration optimization for sheep and their solution using programs on the PC.
	10. Development of models of optimization of rations for horses and their solution using programs on a PC.
	11. Development of models of optimization of rations for poultry and solving them using programs on a PC.
	12. Development of models of optimization of rations for fish and solving them using programs on a PC.
	13. Development of models for ration optimization for fur animals and solving them using programs on a PC.
	14. Use gadgets to quickly solve technological issues of animal feeding
Language	Ukrainian