SYLLABUS OF THE DISCIPLINE
"Feeding animals"

Degree of higher education - Master
Specialty - 211 - Veterinary medicine
Educational program - "Veterinary Medicine"
Study year 2, semester 4
The form of study is full-time.
Number of ECTS credits: 4
The language of instruction is Ukrainian

Lecturer of the course	Ihor Ilchuk
Contact information of the lecturer (e-mail)	Associate Professor of the Department of Animal Nutrition and Feed Technology; e-mail: ilchukigor@nubip.edu.ua
Course page in eLearn	**https://elearn.nubip.edu.ua/course/view.php?id=488**

DESCRIPTION OF THE DISCIPLINE

The purpose of the discipline is the formation of a system of knowledge and skills in animal nutrition and the rational use of feed resources in students, the study of methods of evaluating the nutritional value and quality of feed, as well as the principles of animal feeding rationing, the acquisition of skills in determining feeding rates and drawing up rations and recipes of compound feed for individual species, sexes and age groups of animals.

The tasks of the discipline are to provide future specialists with knowledge of the biology of animal nutrition of various species and the prevention of food-borne diseases, the organisation of scientifically based feeding fodder harvesting technologies, methods of assessing nutrition and feed quality, control the completeness of animal feeding and the quality of livestock products.

As a result of studying the discipline, the student should know the features of the chemical composition of fodder, peculiarities of digestion in animals of various species, fodder resources that can be used in feeding animals of multiple species, know the changes that occur in the process of procurement, storage and preparation of fodder for feeding, as well as the influence of fodder on the quality of livestock products; the need for energy, nutrients and biologically active substances of animals of different species, gender and age groups; feed, rations, compound feed recipes for animals of different species, gender and age groups; mode and technique of feeding animals of different species, gender and age groups; critical points of animal feed quality control; alimentary diseases arising from excess and deficiency of nutrients.

The student should be able to use the data of chemical analysis of feed to determine the digestibility, total energy, protein, fat, carbohydrate, mineral and vitamin nutrition of feed; to assess the quality of feed based on nutritional, organoleptic and other specific indicators; determine the feeding rate and prepare rations and recipes of compound feed for animals of different species, gender and age groups; monitor the quality of nutrition based on the animal's reaction and product quality.

Competencies of the educational program:

Integral competence (IC): The ability to solve complex tasks and problems in the field of veterinary medicine, which involves research and innovation and is characterised by the uncertainty of conditions and requirements

General competencies (GC): GC 2. Ability to apply knowledge in practical situations. GC 10. Ability to communicate with representatives of other professional groups of different levels (with experts of other fields of expertise/ economic activity). GC 11. Ability to evaluate and ensure the quality of performed works.

Particular (professional, subject) competencies (SC):

SC 14. Ability to conduct a forensic veterinary examination.

SC 18. Ability to use specialised software tools to perform professional tasks.

Program learning outcomes (PLO):

PLO 4. Collect anamnestic data during registration and examination of animals and make decisions regarding the choice of effective methods of diagnosis, treatment and prevention of animal diseases.

PLO 7. Formulate conclusions regarding the effectiveness of selected methods and means of keeping, feeding, and treating animals, preventing contagious and non-communicable diseases, and producing and technological processes at enterprises for keeping, breeding, or exploiting animals of various classes and species.
PLO 18. Carry out accounting reporting during professional activity.

COURSE STRUCTURE

Topic	Hours (lectures/laboratory, practical, seminar)	Learning outcomes	Task	Assessment
Module 1. Assessment of feed nutrition. Fodder and evaluation of their quality				
Topic 1. Introductory lecture. Chemical composition of fodder and animal bodies. Physiological importance of certain nutrients and biologically active substances in animal nutrition.	lectures - 2 hours; laboratory work - 2 hours	To study the chemical composition of fodder, to acquire skills in using tables of the chemical composition of fodder, to learn to compare the main properties of fodder according to their content of nutrients and to evaluate fodder crops according to the yield of nutrients from 1 ha of sowing.	The task is to compare the fodder according to the content of their primary nutrients. Task: Compare different groups of fodder in terms of energy and nutrient output from 1 ha. Tasks are performed in a workbook or the e-learn (e-learn)	5
Topic 2. Digestibility and digestion of feed nutrients in the body of animals. Assessment of energy (total) nutrition of feed. Differentiated feed nutrition evaluation.	lectures - 2 hours; laboratory work - 8 hours	To study the methods and techniques of determining the digestibility of nutrients in feeds and rations. To study the method of calculating the balance of nitrogen, carbon, and energy and the synthesis of protein and fat in the bodies of animals. Master the methods of determining feed nutrition in exchangeable energy and net energy of lactation. To study the value of protein and methods of assessing the protein nutritional value of feed	Task: based on the data of the balance experiment, calculate the digestibility of nutrients in the diet using a straightforward method. Task: Calculate the total energy nutrition of feed in exchangeable energy for pigs, cattle, poultry, dogs, and cats. Task: calculate the total energy nutrition of feed in the net energy of lactation for dairy cows. Task: Compare the protein, amino acid, fat, mineral,	5

		Apply assessment of carbohydrate and fat nutrition of fodder in practice. Be able to evaluate the mineral and vitamin nutrition of fodder.	and vitamin nutrition of feeds of different groups. Tasks are performed in a workbook or the e-learn (e-learn)	
Topic 3. Fodder. Classification of fodder and assessment of their quality. State standards for feed. Forage.	lectures - 2 hours; laboratory work - 8 hours	Know the foreign and domestic classification of fodder. Know the types of fodder of different groups. Know the technology of harvesting hay, silage and silage. Be able to evaluate the quality of green, rough fodder, silage, hay, and root crops.	Task: to evaluate and determine the quality category of hay, straw, green fodder, silage, silage, and root crops. Tasks are performed in a workbook or the e-learn (e-learn)	5
Topic 4. Grain fodder. Remains of processing raw materials of plant origin. Fodder of animal origin. Mixed feeds, feed additives and preparations.	lectures - 2 hours; laboratory work - 4 hours	Know the types of concentrated feeds. Know the types of compound feed. To know the methods of preparing grain fodder for feeding. Various types of compound feed are used to evaluate the quality of grain feed, cake and meal, bran, meat and bone and fish meal.	The task is to evaluate and determine the quality category of cereal grain, leguminous crops, cake, meal, meat and bone and fish meal, wheat bran, and complete ration compound feed. Tasks are performed in a workbook or the e-learn (e-learn)	5
Intermediate certification for the first module			Completing a test of 30 tasks in ENK (e-learn)	10
Only 1 module	lectures - 8 hours; laboratory work - 10 hours			30
Module 2. Standardised feeding of animals				
Topic 5. The need of animals for nutrients and the rate of feeding. Feeding ruminants.	lectures - 2 hours; laboratory work - 11 hours	Know the peculiarities of feeding ruminants. Be able to determine the feeding rate and	Task: Determine the feeding rate and prepare daily rations for dry cows, dairy cows, and breeding bulls.	10

		prepare rations for dry and milking cows, breeding bulls, calves and repair and fattening young animals of different age groups	Analyse feeding schemes for calves. Determine the feeding rate and prepare daily rations to repair young and young cattle for fattening. Tasks are performed in a workbook or the e-learn (e-learn)	
Topic 6. Pig feeding. Feeding horses.	lectures - 2 hours; laboratory work - 6 hours	Know the peculiarities of nutrition of monogastric animals. Determine the feeding rate and prepare daily rations for working and breeding horses. To be able to make recipes of compound feed for pigs of different gender and age groups	Task: Determine the feeding rate and prepare daily rations for working horses and broodmares The task: to make recipes of compound feed for suckling sows and young pigs for fattening. Tasks are performed in a workbook or the e-learn (e-learn)	10
Topic 7. Poultry feeding. Feeding fur animals.	lectures – 3 hours; laboratory work - 6 hours	Know the features of poultry nutrition. To determine the feeding rate and make compound feed recipes for egg-laying chickens and meat-producing areas, broiler chickens, and young ducks for fattening. Know the peculiarities of feeding rabbits, nutria and minks. Determine the feeding rate and make daily rations for fur animals.	Task: to make recipes of combined feed for laying hens, broiler chickens, and young ducks. Task: Determine the feeding rate and prepare daily rations for rabbits and minks of different genders and age groups Tasks are performed in a workbook or the e-learn (e-learn)	10
Intermediate certification on the second module			Completing a test of 30 tasks in ENK (e-learn)	10
Only two modules	lectures - 7 hours;			40

	laboratory work – 23 hours			
Educational work for the course	lectures - 15 hours; laboratory work - 45 hours			70
Final certification				30
Total for the course				100

ASSESSMENT POLICY

Deadlines and Rescheduling Policy:	Works submitted late without good reason will be assigned a lower grade. Interim attestation of modules can be rescheduled with the lecturer's permission if there are good reasons (for example, sick leave).
Academic Integrity Policy:	Individual calculation tasks are performed by each student independently according to the individual task. Writing off during intermediate and final certification is prohibited (including using mobile devices).
Attendance Policy:	Attending classes is mandatory. For objective reasons (for example, illness, international internship), training can take place individually (in online form upon agreement with the dean's office of the faculty)

STUDENT ASSESSMENT SCALE

Student rating, points	**The assessment is national based on the results of the exam**
90 - 100	perfectly
74 – 89	fine
60 – 73	satisfactorily
0 - 59	unsatisfactorily

RECOMMENDED SOURCES OF INFORMATION

Basic literature

1. Feeding of agricultural animals/ I.I. Ibatullin, D.O. Melnychuk, G.O. Bohdanov et al. – Vinnytsia: Nova Kniga, 2007. – 612 p.
2. Workshop on feeding agricultural animals: study guide / I.I. Ibatullin, Yu.F. Melnyk, V.V. Otchenashko and others. - Zhytomyr: PP "Ruta", 2015. - 432 p.

Additional literature

1. Durst L., Wittman M. Feeding of farm animals: Education. Manual. Trans. with him / Under the editorship I.I. Ibatullin and H. Strobel. K.: Phoenix, 2006. 384 p.

Information resources:

1. https://scholar.google.com.ua/schhp?hl=uk
2. http://library.nubip.edu.ua/
3. http://elibrary.nubip.edu.ua/
4. http://www.aginternetwork.net/%20
5. http://www.fao.org/
6. http://uran.net.ua/~ukr/frames-biblio.htm
7. https://ovidsp.ovid.com/autologin.html
8. http://journals.nubip.edu.ua/index.php/Dopovidi/index