SYLLABUS OF THE DISCIPLINE
"Animal nutrition and feed quality"

Degree of higher education - Master
Speciality - 204 - Technology of production and processing of animal husbandry products
Educational program - "Technology of production and processing of livestock products"
Study year 1, semester 1
The form of study is full-time.
Number of ECTS credits: 4
The language of instruction is Ukrainian

Lecturer of the course	**Ivan Balanchuk**
Contact information of the lecturer (e-mail)	**Associate Professor of the Department of Animal Feeding and Fodder Technology, named after P.D. Pshenychny; e-mail:balanchuk@nubip.edu.ua**
Course page in eLearn	***https://elearn.nubip.edu.ua/course/view.php?id=1316***

DESCRIPTION OF THE PLANE DISC

The purpose of the discipline is the formation of students' professional competence in animal nutrition, digestion of nutrients and their assimilation in the body, modern technologies for the production of feed and feed additives for animals, methods of preparation for feeding animals of various species and sex-age groups and systems of using the feed, evaluating their quality and feeding of animals by the educational and qualification characteristics for speciality 204 "Technology of production and processing of animal husbandry products".

Competencies of OP:

Integral competence: The ability to solve complex tasks and problems of professional activity in the technology of production and processing of animal husbandry products in the learning process, which involves conducting research and implementing innovations characterised by the uncertainty of conditions and requirements.

Special competence: Ability to analyse and control the safety and quality of feed and feed products and animal nutrition.

Program learning outcomes: Assess and ensure the quality and safety of livestock production technologies, fodder and feed products, animal nutrition levels, and animal origin products.

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. Types of feed classifications. The concept of animal nutrition.	lectures - 2 hours; laboratory work - 2 hours independent work - 14	**To know:** Concepts of feed and fodder. Draft Law of Ukraine on fodder. Factors affecting the composition and nutrition of feed. The influence of feed quality on its digestibility in the animal body. **Be able to** Apply knowledge about fodder and fodder in practice.	**Tasks:** completed in a workbook or the e-learning system (e-learn)/	**8**

Topic 2. Peculiarities of the use of nutrients by ruminants. Basic approaches to optimisation of ruminant feeding.	lectures - 2 hours; laboratory work - 4 hours independent work - 16	**Know** the structure of the digestive tract of ruminants. Peculiarities of digestion of nutrients in ruminants. Functions of individual departments of the gastrointestinal tract. **Apply** knowledge about the peculiarities of digestion and digestion of feed in ruminants.	**Tasks:** completed in a workbook or the e-learning system (e-learn)	**9**
Topic 3. Nutrition of monogastric animals.	lectures - 2 hours; laboratory work - 4 hours independent work - 14	**Know** the structure of the digestive tract of monogastric animals. Peculiarities of digestion of nutrients in monogastric. Functions of individual departments of the gastrointestinal tract. **In practice, apply knowledge about the peculiarities of digestion and digestion of feed in monogastric animals**.		**8**
Intermediate certification for the first module			Completing a test of 30 tasks in ENK (e-learn)	**10**
Only 1 module	lectures - 6 hours; laboratory work - 10 hours independent work - 44			**35**
Topic 4. Forage.	lectures - 2 hours; laboratory work - 5 hours independent work - 7	**Know the characteristics of roughage and the technology of harvesting hay and** straw. The main aspects of the use of roughage in animal nutrition and their influence on the composition and nutrition of the diet. **Be able to** evaluate the quality of roughage and draw conclusions about the specifics of their use.	**Task:** to assess and determine the quality category of hay and straw. Tasks are performed in a workbook or the e-learn (e-learn)	**6**
Topic 5. Silage fodder.	lectures - 2 hours; laboratory work - 5 hours independent work - 8	**Know** physiological and microbiological processes during ensiling plants. Economic basics of fodder ensiling and ensiling technology. Factors affecting the consumption and digestion of silage forage. **Assess** the quality of hay and haylage and conclude the specifics of their use.	**Task:** to evaluate and determine the quality category of hay and haylage. Tasks are performed in a workbook or the e-learn (e-learn)	6
Topic 6. Grain fodder.	lectures - 2 hours; laboratory work - 5	**Know the** characteristics of cereal	**Task:** to evaluate and determine the quality	**6**

	hours independent work - 8	and legume feed. Methods of preparing fodder for feeding, processing parameters, influence on the nutrition of fodder, digestion and productivity of animals. Methods of assessing the content of antinutrients in feed. Effects of antinutrients on animal health and productivity. **Be able to carry out an organoleptic assessment of the quality of grain fodder, determine the degree of grinding of fodder, and** draw conclusions about the peculiarities of their use.	category of grain fodder. Assess the quality of forage grinding. Tasks are performed in a workbook or the e-learn (e-learn)	
Topic 7. Remains of plant raw materials processing. Fodder of animal origin. Feed additives.	lectures – 3 hours; laboratory work - 5 hours independent work - 8	**Know** the Characteristics of plant production waste processing, animal fodder and their use in animal feeding. The influence of technological factors and storage conditions on feed's nutritional value and digestibility. Terms of use of feed additives in animal nutrition and their impact on productivity and animal health. **Be able to carry out an organoleptic evaluation of the quality of production waste and animal feed and** draw conclusions about the peculiarities of their use.	**The task is** to evaluate and determine the quality category of waste from oil and flour mills and animal fodder. Calculate the farm's annual need for fodder and supplements. Tasks are performed in a workbook or the e-learn (e-learn)	**7**
Intermediate certification on the second module			Completing a test of 30 tasks in ENK (e-learn)	**10**
Only two modules	lectures - 9 hours; laboratory work - 20 hours independent work - 31			**35**
Educational work for the course	lectures - 15 hours; laboratory work - 30 hours independent work - 75			**70**
Final certification (exam)				**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 attestation 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

Rating of a higher education applicant points	National assessment for the results of the final attestation (exam)
90-100	perfectly
74-89	fine
60-73	satisfactorily
0-59	unsatisfactorily

RECOMMENDED SOURCES OF INFORMATION

Basic literature

1. Ibatullin I., Melnychuk D., Bogdanov G., etc. Feeding of farm animals. Textbook. – Vinnytsia: Nova Kniga, 2007. – 616 p.

2. Durst L., Wittman M. Feeding of farm animals: Educational guide. Translated from German / Edited. I.I. Ibatullin and H. Strobel. K.: Phoenix, 2006. – 384 p.

3. New preservatives and feed technologies/ M.F. Kulyk, V.F. Petrychenko, T.V. Zasukha and others. - Vinnytsia: PP "Tesis Publishing House", 2004. - 320 p.

4. Draft Law of Ukraine "On Feeds" [Text] // Effective feeds and feeding. – 2007. – No. 5. – C. 7–15.

5. Ukraine Cabinet of Ministers. Regulations on state registration of veterinary drugs, feed additives, premixes and ready-made feeds / approved by Resolution of the CMU of November 21, 2007 No. 1349 // Official Gazette of Ukraine. – 2007. – No. 89. – Art. 3273.

6. Ukraine State Statistics Committee. Methodological recommendations for calculating the costs of livestock and poultry feed in farms of all categories: approved by order of the State Statistics Committee of Ukraine dated 01.24.2008 No. 18 // File of legislation of Ukraine. Search system "Omega".

Additional literature

7. Detailed norms of feeding agricultural animals: Handbook/ M. Nozdrin, M. Karpus, V. Karavashenko et al., K.: Urozhai, 1991.–344 p.

8. Zheltov Yu. Compound feed recipes for growing fish of different types and ages in industrial farming. - K.: "INKOS" company, 2006. - 154 p.

9. Drought T. New dispersed minerals in animal husbandry. - Vinnytsia: Arbat, 1997. – 222 p.

10. Klitsenko G., Kulyk M., Kosenko M., Lisovenko V. etc. Mineral nutrition of animals. - K.: Svit, 2001. - 576 p.

11. Kulyk M., Zasukha T., Velichko I. etc. Traditional and non-traditional minerals in animal husbandry. - K.: Agricultural Education, 1995. - 248 p.

12. Maksakov V. Production and use of compound feed. - K.: Urozhai, 1978. - 149 p.

13. Stolyarchuk P., Boyarskyi L. Fodder procurement and standardised feeding of farm animals: Handbook. - Lviv: Kamenyar, 1989.–173 p.

14. Artyushin, A. Production of granulated and briquette fodder / A. Artyushin, O. Rensevych. - K.: Urozhaj, 1980. - 88.

15. Babich A. Fodder and protein resources of the world: monograph / A. Babich. - K., 1995. - 298 p.

Information resources

www.poultryukraine.com

http://avm-ua.org/

http://asu.pigua.info/

http://ncservice.com.ua/

http://corporate.evonik.com

http://www.webpticeprom.ru/

www.winmixsoft.com

http://soft-agro.com/

http://www.delaval.ru/

http://www.ag-bag.ua/

http://www.scivp.lviv.ua

http://www.uaan.gov.ua/

http://global.alltech.com/ukraine

http://kremix.kiev.ua/

http://novacore.com.ua/

http://www.bigdutchman.ua

http://www.schaumann.org.ua

http://www.piginfo.ru

http://www.fao.org/home/ru/

http://www.nap.edu/

http://www.dlg.org