

**NATIONAL UNIVERSITY OF LIFE AND ENVIRONMENTAL SCIENCES
OF UKRAINE**

Department of Dairy and Beef Production Technology



“APPROVED”

Dean of Faculty
of Agrarian Management
Anatolii OSTAPCHUK

2024

“APPROVED”

on the meeting of Department of Dairy
and Beef Production Technology

Minutes №5 of “14”05.2024

Head of the Department
Anatolii UGNIVENKO

”REVIEWED”

Guarantor of the AP “Marketing”

Program Coordinator

Violeta HERAIMOVYCH

CURRICULUM OF ACADEMIC DISCIPLINE

SYSTEMS OF TECHNOLOGIES: ANIMAL PRODUCTION

Field of knowledge 07 – “Management and administration”

Specialty 075 “Marketing”

Academic programme Marketing

Faculty of Agrarian Management

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Description of the discipline

SYSTEMS OF TECHNOLOGIES: ANIMAL PRODUCTION

Academic degree, specialty, academic programme		
Academic degree	<i>Bachelor's</i>	
Specialty	<i>075 "Marketing"</i>	
Academic programme	<i>Marketing</i>	
Characteristics of the discipline		
Type	compulsory	
Total number of hours	60	
Number of ECTS credits	2	
Number of modules	2	
Course project (work) (if any)	–	
Form of assessment	<i>exam</i>	
Indicators of the discipline for full-time and part-time forms of university study		
	Full-time	Part-time
Year of study	1	–
Semester	1	–
Lectures	<i>18 hours</i>	–
Practical classes and seminars	–	–
Laboratory classes	<i>18 hours</i>	–
Self-study	<i>24 hr.</i>	–
Number of hours per week for full-time students	<i>2.4 hr</i>	–

1. **Aim, objectives, competences and expected learning outcomes of the discipline**

The **main aim** of this discipline is to equip students with the knowledge and skills needed for the rational selection and effective use of various technological elements. These elements are intended to increase animal productivity, lower production costs, and improve the competitiveness of agricultural products. The **main objectives** include developing practical skills for producing sustainable animal products. This necessitates the widespread adoption of variety-based, intensive, energy- and resource-efficient, and environmentally sustainable technologies. Additionally, it involves aligning the production of different farm animal species with market demands.

Acquisition of competencies:

Integrated competency (IC): The ability to solve complex specialized tasks and practical problems in the field of marketing or during the learning process, which involves the application of relevant theories and methods, and is characterized by complexity and uncertainty of conditions.

General competencies (GC):

GC4. The ability to learn and acquire contemporary knowledge.

GC5. Determination and perseverance in achieving set goals and fulfilling responsibilities.

GC11. The ability to work in a team.

GC13. The ability to work in an international context.

Professional (special) competencies (PC):

PC 12. The ability to substantiate, present and implement the results of research in the field of marketing.

Expected Learning Outcomes (ELO):

ELO 5. The ability to identify and analyze key characteristics of marketing systems at different levels, as well as the behaviors of their subjects.

ELO 9. The ability to evaluate risks in conducting marketing activities, determine the level of uncertainty in the marketing environment when making management decisions.

ELO 11. Demonstrating the ability to apply an interdisciplinary approach and

perform marketing functions of a market entity.

ELO 13. Being accountable for the results of one's activities and demonstrating entrepreneurial and managerial initiative.

ELO 26. Preparing founding documents and registering a business, taking into account the specifics of different organizational and legal forms of economic activity in accordance with current legislation.

2. Program and of the discipline for:

- complete full-time (part-time) form of study;
- shortened full-time (part-time) form of study.

Names of content modules and topics	Number of hours													
	Full-time form							Part-time form						
	weeks	total	including					total	including					
			l	p	l	ind	self		l	π	l	ind	self	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	
Content module 1. Breeding, feeding and keeping of farm animals														
Topic 1. Basics of farm animals breeding	1	5	3				2							
Livestock identification methods. Legislative bases. Identification and traceability issues	5	4			3		1							
Topic 2. General of animal nutrition and assessment of nutritional value of feedstuffs	2	5	3				2							
Evaluation of farm animals for exterior and growth	6	4			3		1							
Topic 3. Feedstuffs, their classification, and usage in feeding farm animals	3	4	2				2							
Evaluation of nutritional value of feedstuffs by the amount of digestible nutrients	7	3			2		1							
Topic 4. Production technology for dairy and beef cattle	4	4	2				2							
Determining net energy feedstuffs	8	3			2		1							
Total for content module 1		32	10		10		12							
Content module 2. Cattle production, swine, poultry and beekeeping production														
Topic 1. Why dairy farms have different profitability?	9	4	2				2							

Calculation of the technological process of milk production	13	3			2		1						
Topic 2. Swine production	10	4	2				2						
Estimating farm economical values for milk production and marketing	14	3			2		1						
Topic 3. Poultry production	11	4	2				2						
Calculation of the technological process of swine production	15	3			2		1						
Topic 4. Beekeeping production	12	4	2				2						
Standards for basic types of agricultural products.	16	3			2		1						
Total for content module 2	28		8		8		12						
Total for content of course	60		18		18		24						

3. Topics of laboratory classes

№	Topic title	Number of hours
Content module 1		
1	Livestock identification methods. Legislative bases. Identification and traceability issues	3
2	Evaluation of farm animals for exterior and growth	3
3	Evaluation of nutritional value of feedstuffs by the amount of digestible nutrients	2
4	Determining net energy feedstuffs	2
Content module 2		
1	Calculation of the technological process of milk production	2
2	Estimating farm economical values for milk production and marketing	2
3	Calculation of the technological process of swine production	2
4	Standards for basic types of agricultural products	2

4. Topics for self study

№	Topic title	Number of hours
Content module 1		
1	Organization of breeding work in livestock	2
2	Technology of growing replacing heifers in the post-milk period.	2
3	The structure and function of the breast. The composition of milk of the main species of farm animals	2
4	Technology of production, processing and sale of milk. Primary and secondary processing of milk.	2
5	Ways to increase the milk productivity of farm animals and economic efficiency of milk production.	2
6	Cattle breeds of meat productivity - Ukrainian meat, Volyn meat and their types, Hereford, Aberdeen-Angus.	2
Content module 2		
1	Technology of fattening pigs for meat, bacon and fatty conditions	2
2	Technology of pork production in specialized farms	2
3	Digitalization of farm animal breeding	2
4	Sheep products (wool, smushki, sheepskin, meat, milk)	2
5	Economic importance and economic and biological characteristics of goats	2
6	Companion animals	2

5. Tools for assessing expected learning outcomes: :

- - exam;
- - module tests;
- - essays;
- - calculation and calculation-graphic works;
- - defend of laboratory tasks;

6. Teaching methods.

Methods of organization and implementation of teaching and learning of students who used to study subjects:

in terms of transmission and perception of educational information :

- a. verbal (lecture);
- b. visual (illustration , demonstration);
- c. practical (laboratory work);

in terms of logic and thinking:

- d. explanatory, illustrative (presentation);
- e. reproductive (short test papers);

in terms of management training:

- f. job training under the supervision of a teacher;
- g. independent work;

in terms of a team:

- h. incentives (extra points for abstracts);

aspect of self-employment:

- i. Training Module : structural logic scheme;
- j. sample tests

7. Assessment methods:

Forms of control students used to the discipline: Current, landmark and final control.

Current control knowledge is an integral part of the whole educational process and serves as a means of identifying the degree of perception (learning) training material. Learning management is possible only on the basis of the current control. The tasks are reduced to the current control order:

- identify the scope, depth and quality perception (mastering) of the material being studied;
- identify deficiencies in knowledge and identify ways to address them;

- identify the degree of responsibility of students and their attitudes to work, finding the causes that hinder their work;
- identify the level of mastering the skills of independent work and identify ways and means of development;
- stimulate students' interest in the subject and in the knowledge of their activity.

The main task of this control - to help students organize their work, learn independently, responsibly and systematically study all subjects.

Block (thematic, modular) control of knowledge is an indicator of quality study of selected chapters and topics related cognitive, methodological, psychological and organizational qualities of students.

Final control is carried out with students to assess their knowledge and skills in the discipline. The main goal - establishing actual content in terms of student learning, the quality and depth of skills and apply them in practice. Final control. In the discipline we apply a differentiated final control of exhibiting total points for the educational process and final control.

8. Distribution of points received by students

The assessment of students' knowledge and skills is conducted by means of a 100-point scale and is converted into national grades according to Table 1 of the current Exam and Credit Regulations at NULES of Ukraine.

Student rating, points	National grade based on exam results	
	Exams	Credits
90-100	Excellent	Passed
74-89	Good	
60-73	Satisfactory	
0-59	Unsatisfactory	Not passed

In order to determine the rating of a student (listener) in the discipline R_{dis} (up to 100 points), the rating from the exam R_{ex} (up to 30 points) is added to the rating of a student's academic work R_{aw} (up to 70 points): $R_{dis} = R_{aw} + R_{ex}$.

9. Teaching and learning aids

1. Program Of The Course SYSTEMS OF TECHNOLOGIES: ANIMAL PRODUCTION
2. Technology of Animal Products Production. The Practical guide for laboratory classes for the students of economical majors (for group with intensive English learning). – 2017.

10. Recommended sources of information

1. Костенко В. І. Технологія виробництва молока і яловичини : підручник. К.: «Ліра», 2023. 443 с.
2. Технологія виробництва і переробки продукції свинарства : навчальний посібник / М. Повод, О. Бондарська, В. Лихач, С. Жижка, В. Нечмілов та ін. – Київ : Науково-методичний центр ВФПО, 2021. – 360 с.
3. Угнівенко А.М., Колісник О.І., Кос Н.В. М'ясне скотарство. підручник. К.: «ЦП Компринт», 2020. 536 с.
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7. Lovarelli, D., Bacenetti, J., & Guarino, M. (2020). A review on dairy cattle farming: Is precision livestock farming the compromise for an environmental, economic and social sustainable production?. *Journal of Cleaner Production*, 262, 121409.
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9. Namara, J. P., & McSweeney, P. L. H. (2021). *Encyclopedia of Dairy Sciences*. Elsevier Science & Technology Books. 4874 p.
10. National Academies of Sciences, Engineering, and Medicine; Division on Earth and Life Studies; Board on Agriculture and Natural Resources; Committee on Nutrient Requirements of Dairy Cattle. (2021). *Nutrient Requirements of Dairy Cattle: Eighth Revised Edition*. National Academies Press (US).
11. Shaffer, V. (2021). *Introduction to Animal Science*. Syrawood Publishing House., 240 p.
12. Webster, J. (2020). *Understanding the dairy cow*. John Wiley & Sons. 274 p.
13. Webster, J., & Margerison, J. (Eds.). (2022). *Management and welfare of farm animals: the UFAW farm handbook*. John Wiley & Sons.