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

**Department of Animal and Food Hygiene  
named after prof. A.K. Skorokhodko**



«APPROVED»

Dean of the Faculty of Veterinary Medicine  
**Mykola TSVILIKHOVSKY**  
05" 06 2024

«APPROVED»

at the meeting of the Department  
of Animal and Food Hygiene  
named after prof. A.K. Skorokhodko  
Minutes № 13 of 30.05.2024  
Head of the Department  
**Vyacheslav SOLOMON**

«REVIEWED»

Guarantor of the AP «Veterinary medicine»  
**Natalia GRUSHANSKA**

**CURRICULUM OF THE TRAINING PRACTICE**

**ANIMAL HYGIENE**

Field of knowledge 21 – «Veterinary medicine»  
Specialty 211 – «Veterinary Medicine»  
Academic programme «Veterinary Medicine»  
Faculty of Veterinary Medicine  
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Kyiv – 2024

## DESCRIPTION OF THE DISCIPLINE «ANIMAL HYGIENE»

| <b>Academic degree, specialty, academic programme</b>                                     |                           |           |
|---|---------------------------|-----------|
| <b>Academic degree</b>  | Master's                  |           |
| <b>Specialty</b>  | 211 «Veterinary Medicine» |           |
| <b>Academic programme</b>   | «Veterinary Medicine»     |           |
| <b>Characteristics of the discipline</b>  |                           |           |
| Type  | compulsory                |           |
| Total number of hours   | 120                       |           |
| Number of ECTS credits  | 4                         |           |
| Number of modules   | 4                         |           |
| Form of assessment  | credit, exam              |           |
| <b>Indicators of the discipline for full-time and part-time forms of university study</b> |                           |           |
|   | full-time                 | part-time |
| Year of study   | 2-3                       |           |
| Semester  | IV-V                      |           |
| Lectures  | 30 hours                  |           |
| Practical classes and seminars  |                           |           |
| Laboratory classes  | 60 hours                  |           |
| Self-study  | 30 hours                  |           |
| Number of hours per week for full-time students   | 3,5 hours                 |           |

## 1. AIM, OBJECTIVES, COMPETENCES AND EXPECTED LEARNING OUTCOMES OF THE DISCIPLINE

The **aim** of the discipline is to provide students with knowledge of the basics of modern zoohygienic science and practice for them in the economy of a set of veterinary measures aimed at maintaining health, improving productivity and quality and safety of livestock products.

The course goal is to develop the legislation and organizational structure of the State Veterinary Service of Ukraine at the enterprises of the meat, dairy and fishing industries, at the border and transport, objects and methods of state veterinary control conditions for keeping animals.

The course **objective** is to familiarize students with the veterinary legislation of Ukraine with the basics of deontology and jurisprudence in veterinary medicine, veterinary records management in the field of animal hygiene, prevention of diseases of various etiologies, control and regulation of microclimate parameters of livestock facilities.

The task of studying the discipline.

The task of studying the discipline "Animal Hygiene" is theoretical knowledge and practical skills in order to professionally carry out:

- organization of sanitary and hygienic measures aimed at creating an optimal microclimate for animals;
- control and organization of measures for the prevention of infectious invasive and non-communicable diseases of animals;
- providing animals with high-quality feed resources, compliance with the rules and regimes of feeding and watering animals, taking into account species, age and productive characteristics;
- introduction into the practice of animal husbandry of modern technologies of keeping, exploitation of animals, as well as their rehabilitation (exercise, hardening, insolation, etc.);
- objective professional evaluation of the so-called modern industrial technologies, taking into account the positive and negative consequences of their use in animal husbandry;

The primary task of modern hygiene is the timely detection of harmful environmental factors and the development of preventive measures to eliminate them. It is important to take into account when implementing new

technological techniques or new technologies physiological features of the animal body.

As a result of studying the discipline, the student must know: the terminology and the main provisions of national and international legislation.

**Acquisition of competences:**

**Integral competence (IC):**

Ability to solve complex tasks and problems in the field of veterinary medicine, which involves research and/or innovation and is characterized by uncertainty of conditions and requirements.

**General competences (GC):**

Knowledge and understanding of the subject area and profession.

**Special (professional) competences (SC):**

1. Ability to apply methods of working with national and international regulations, scientific papers, methodological developments, recommendations, instructions, etc. in professional activities.
2. Development and support of biosafety measures, maintenance of animal hygiene, best practices in animal health, careful use of veterinary drugs, principles of preventive medicine, application of animal health and ethology, assessment and reduction of risk factors that provoke disease and negatively affect productivity.
3. Ability to plan sanitary measures, develop procedures and monitor compliance with hygiene requirements at facilities for the production of safe food, feed and feed additives, etc.
4. Ability to organize and conduct state control of hygienic requirements and sanitary measures in agri-food markets and facilities.
5. Ability to carry out state (internal) veterinary and sanitary control at the facilities for the production and circulation of sanitary measures, to apply appropriate methods of sampling, handling and results of their tests (research).
6. Ability to carry out veterinary and sanitary control of production and circulation of feed, feed additives, premixes, etc. at controlled facilities, competently use their research methods and conduct their sanitary assessment.
7. Ability to control the hygienic requirements of the facilities for the production and processing of livestock products, veterinary facilities, etc.
8. Ability to control the effectiveness of capacity rehabilitation in accordance with the requirements of national and international regulations.

**Expected Learning Outcomes (ELO):**

Formulate conclusions on the effectiveness of the selected methods and means of keeping, feeding and treatment of animals, prevention of contagious and non-contagious diseases, as well as production and technological processes at enterprises for the maintenance breeding or exploitation of animals of different classes and species.

Monitor the causes of the spread of diseases of various etiologies and biological pollution of the environment by livestock waste, as well as materials and veterinary products.

Organize the waste disposal process and ensure environmental cleanliness of production.

## **2. PROGRAMME AND STRUCTURE OF THE DISCIPLINE «ANIMAL HYGIENE» FOR FULL-TIME FORM OF STUDY**

| Modules and topics                          | Number of hours |           |     |           |        |          |
|---|-----------------|-----------|-----|-----------|--------|----------|
|   | Full-time       |           |     |           |        |          |
|   | total           | including |     |           |        |          |
|   | lec             | pr        | lab | ind       | ind. w |          |
| 1   | 2               | 3         | 4   | 5         | 6      | 7        |
| <b>Module 1</b>                             |                 |           |     |           |        |          |
| 1. Introductory lecture.                    | 4               | 2         |     | 2         |        |          |
| Physical properties of the air environment. | 4               |           |     | 2         |        | 2        |
| 2. Air temperature. Air humidity.           | 4               | 2         |     | 2         |        |          |
|   | 4               |           |     | 2         |        | 2        |
| 3. Air velocity. Atmospheric pressure.      | 4               | 2         |     | 2         |        |          |
|   | 4               |           |     | 2         |        | 2        |
| 4. Solar radiation.                         | 4               | 2         |     | 2         |        |          |
|   | 4               |           |     | 2         |        | 2        |
| Together on the content module 1            | <b>32</b>       | <b>8</b>  |     | <b>16</b> |        | <b>8</b> |
| <b>Module 2</b>                             |                 |           |     |           |        |          |
| 5. Chemical composition of the air.         | 4               | 2         |     | 2         |        |          |
|   | 4               |           |     | 2         |        | 2        |
| 6. Biological properties of the             | 4               | 2         |     | 2         |        |          |

|  |           |           |  |           |  |           |
|--|-----------|-----------|--|-----------|--|-----------|
| air. Dust, its classification.   | 4         |           |  | 2         |  | 2         |
| 7. Sanitary and hygienic requirements for feed.  | 4         | 2         |  | 2         |  |           |
| Hygienic requirements for the feeding regime of animals.                                       | 4         |           |  | 2         |  | 2         |
| 8. Manure removal systems in livestock premises. Methods of storage and disinfection of manure | 4         | 1         |  | 2         |  | 1         |
| Together on the content module 2   | <b>28</b> | <b>7</b>  |  | <b>14</b> |  | <b>7</b>  |
| <b>Total hours per 4 semester</b>  | <b>60</b> | <b>15</b> |  | <b>30</b> |  | <b>15</b> |
| <b>Module 3</b>  |           |           |  |           |  |           |
| 9. Ventilation systems for livestock premises  | 4         | 2         |  | 2         |  |           |
| 10. Heat balance of livestock facilities,  | 4         |           |  | 2         |  | 2         |
| 11. Soil, its hygienic value   | 4         | 2         |  | 2         |  |           |
| 12. Sanitary and hygienic value of water.  | 4         |           |  | 2         |  | 2         |
| 13. Collections and utilization of biowaste  | 4         | 2         |  | 2         |  |           |
| 14. Sanitary-hygienic estimation of forage quality   | 4         |           |  | 2         |  | 2         |
| 15. Evaluation of disinfection quality   | 4         | 2         |  | 2         |  |           |
| 16. Sanitary and hygienic requirements for transportation of animals                           | 4         |           |  | 2         |  | 2         |
| Together on the content module 3   | <b>32</b> | <b>8</b>  |  | <b>16</b> |  | <b>8</b>  |
| <b>Module 4</b>  |           |           |  |           |  |           |
| 17. Systems and methods of keeping cattle  | 4         | 2         |  | 2         |  |           |
| 18. Hygienic requirements for keeping young cattle   | 4         |           |  | 2         |  | 2         |
| 19. Hygiene of pigs  | 4         | 2         |  | 2         |  |           |
| 20. Hygiene of sheep   | 4         |           |  | 2         |  | 2         |
| 21. Hygiene of horses  | 4         | 2         |  | 2         |  |           |

|   |            |           |  |           |  |           |
|---|------------|-----------|--|-----------|--|-----------|
| 22. Hygiene of poultry  | 4          |           |  | 2         |  | 2         |
| 23. Hygiene of rabbits<br>Hygiene of bees and pond fish farming | 6          | 1         |  | 2         |  | 1         |
| Together on the content module 4                                | <b>28</b>  | <b>7</b>  |  | <b>14</b> |  | <b>7</b>  |
| <b>Total hours per 5 semester</b>                               | <b>60</b>  | <b>15</b> |  | <b>30</b> |  | <b>15</b> |
| <b>Total hours</b>  | <b>120</b> | <b>30</b> |  | <b>60</b> |  | <b>30</b> |

### 3. TOPICS OF LABORATORY CLASSES

| <b>№</b> | <b>Topic title</b>   | <b>Hours</b> |
|----------|--|--------------|
| 1        | Physical properties of the air environment and methods of their research | 2            |
| 2        | Physical properties of the air environment and methods of their research | 2            |
| 3        | Physical properties of the air environment and methods of their research | 2            |
| 4        | Physical properties of the air environment and methods of their research | 2            |
| 5        | Physical properties of the air environment and methods of their research | 2            |
| 6        | Rehabilitation of livestock air  | 2            |
| 7        | Rehabilitation of livestock air  | 2            |
| 8        | Expert assessment of the microclimate of the livestock premises          | 2            |
| 9        | <b>Colloquium 1</b>  | 2            |
| 10       | Chemical properties of the air environment and methods of their research | 2            |
| 11       | Chemical properties of the air environment and methods of their research | 2            |
| 12       | Biological properties of the air   | 2            |
| 13       | Hygiene of livestock premises  | 2            |
| 14       | Hygiene of livestock premises  | 2            |
| 15       | <b>Colloquium 2</b>  | 2            |
| 16       | Physical properties and chemical composition of soil.                    | 2            |
| 17       | Veterinary and sanitary requirements for soils.                          | 2            |
| 18       | Physical properties of water   | 2            |
| 19       | Sanitary and topographic inspection of the water source                  | 2            |
| 20       | Chemical composition of water  | 2            |
| 21       | Hygienic indicators of water   | 2            |
| 22       | Feed hygiene and methods of quality control                              | 2            |

|              |  |           |
|--------------|--|-----------|
| 23           | <b>Colloquium 3</b>  | 2         |
| 24           | Veterinary and sanitary requirements in animal husbandry                                   | 2         |
| 25           | Veterinary and sanitary requirements in pig breeding                                       | 2         |
| 26           | Veterinary and sanitary requirements in poultry farming                                    | 2         |
| 27           | Veterinary and sanitary requirements in sheep and goat breeding                            | 2         |
| 28           | Veterinary and sanitary requirements in horse breeding                                     | 2         |
| 29           | Veterinary and sanitary requirements in rabbit breeding, animal husbandry and fish farming | 2         |
| 30           | <b>Colloquium 4</b>  | 2         |
| <b>Total</b> |  | <b>60</b> |

#### 4. TOPICS FOR SELF-STUDY

| №            | Topic title  | Hours     |
|--------------|--|-----------|
| 1            | Climatic factors and their importance in the hygiene of farm animals in the hygiene of agricultural animals. Climate and microclimate. Global climate change on Earth. | 2         |
| 2            | Determination of hygrometric values by the Assmann psychrometer.   | 2         |
| 3            | Determination of hygrometric values by the August psychrometer.  | 2         |
| 4            | Determination of atmospheric pressure for different regions of Ukraine.  | 2         |
| 5            | Sanitary and hygienic significance of dust and microbial contamination of atmospheric air by agricultural enterprises.   | 2         |
| 6            | Sanitary and hygienic significance of ammonia emissions into the atmospheric air by agricultural enterprises.  | 2         |
| 7            | Sanitary and hygienic significance of methane emissions into the atmospheric air by agricultural enterprises.  | 2         |
| 8            | Sanitary protection of soils from pollution by agricultural enterprises.   | 2         |
| 9            | Sanitary protection of water sources from pollution by livestock and agricultural enterprises.   | 2         |
| 10           | Sanitary and hygienic requirements for feed used in feeding of farm animals.   | 2         |
| 11           | Sanitary and hygienic requirements for premises for farm animals.  | 2         |
| 12           | Hygiene of animal care.  | 2         |
| 13           | Sanitary and hygienic requirements for keeping farm animals in summer animals during the summer grazing period.  | 2         |
| 14           | Sanitary and hygienic requirements for animal husbandry in conditions of environmental pollution of the territory.   | 2         |
| 15           | Sanitary and hygienic assessment of systems and methods of keeping of laboratory animals.  | 2         |
| <b>Total</b> |  | <b>30</b> |



## 5. TOOLS FOR ASSESSING EXPECTED LEARNING OUTCOMES

- Credit
- Exam
- Module tests

## 6. TEACHING METHODS

The organization of training at NUBiP of Ukraine is provided by means of combining classroom and extracurricular forms of education, namely:

- lectures;
- practical classes (laboratory work, laboratory workshop);
- independent classroom work of students;
- independent extracurricular work of students;
- consultations;

To control the quality of knowledge and skills of students are used:

- individual interviews;
- colloquiums;
- scoring.

## 7. ASSESMENT METHODS

- Credit
- Exam
- Module tests

## 8. DISTRIBUTION OF POINTS RECEIVED BY STUDENTS

The assessment of the student takes place in accordance with the provisions of the "On examinations and tests at NUBiP of Ukraine" dated 27.02.2019 minutes No. 7 from Table.

### The relationship between national assessments and the rating of a higher education applicant

| Student rating, points | Assessment of national for assembly |             |
|------------------------|-------------------------------------|-------------|
|                        | Examinations differentiated tests   | tests       |
| 90 - 100               | Perfectly                           | Credited    |
| 74 - 89                | Well                                |             |
| 60 - 73                | Satisfactory                        |             |
| 00 - 59                | Disappointing                       | Not counted |

To determine the rating of the student (listener) in the assimilation of the discipline RDISS (up to 100 points), the received rating for certification (up to 30 points) is added to the rating of the student (listener) in the educational work R HP (up to 70 points):  $R_{DIS} = R_{HP} + R_{JSC}$  .

## 9. TEACHING AND LEARNING AIDS

Методичні вказівки до проведення лабораторних занять із дисципліни „Гігієна тварин” / М.О. Захаренко, Д.А.Засєкін, В.М. Поляковський та ін. – К.:Арістей. – 2005. – 144 с.

## 10. RECOMMENDED SOURCES OF INFORMATION

### Basic

1. Law of Ukraine "On Veterinary Medicine" dated 16.11.2006 No 361-V.
2. Law of Ukraine "On liability of enterprises, institutions and organizations for violation of the legislation on veterinary medicine" dated 05.12.1996 No 569/96-BP.
3. Law of Ukraine "On Food Safety and Quality" dated 06.09.2005 No2809-IV.
4. Методичні вказівки до проведення лабораторних занять із дисципліни „Гігієна тварин” / М.О. Захаренко, Д.А.Засєкін, В.М. Поляковський та ін. – К.:Арістей. – 2005. – 144 с.

### Information web-resources

1. <http://svynarstvo.in.ua/>
2. <http://agroua.net/animals/>
3. <http://www.horses.dp.ua/>
4. <http://www.milkua.info/uk/>
5. <http://kombikorm.com.ua/news/>
6. <http://www.ptahy.org.ua/>