

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

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

APPROVED
Faculty of Veterinary Medicine
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CURRICULUM OF TRAINING PRACTICE

ANIMAL HYGIENE

Area of knowledge 21 – «Veterinary medicine»

Specialty 211 – «Veterinary Medicine»

Academic programme «Veterinary Medicine»

Faculty of Veterinary Medicine

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1. Introduction of Training Practice in the Discipline "Animal Hygiene"

Training practice in the discipline "Animal Hygiene" is necessary for students to acquire practical skills at operating livestock enterprises in implementing a set of sanitary measures aimed at maintaining animal health, ensuring appropriate productivity and the quality of livestock products. The primary task of modern hygiene is the timely identification of environmental factors harmful to animal health and the development of preventive measures aimed at eliminating them; the scientific and practical substantiation of microclimate parameters; and the development of sanitary and hygienic rules, standards, and rational methods for keeping, feeding, watering and managing different species of farm animals, with mandatory environmental protection.

Purpose of Training Practice – to consolidate the knowledge acquired by students during lectures and laboratory classes on the fundamentals of modern animal hygiene science and practice, enabling them to carry out, under farm conditions, a set of veterinary and sanitary measures aimed at maintaining animal health, increasing animal productivity, and ensuring the quality and safety of livestock products.

Objectives of Training Practice – to master modern approaches and practical skills for introducing into livestock production modern technologies for animal keeping and productive use, as well as measures for improving animal health, including exercise, conditioning and insolation.

List of academic disciplines that precede the study of the discipline "Animal Hygiene"

1. Veterinary Ecology
2. Animal Feeding
3. Animal Physiology
4. Fundamentals of Animal Breeding

Competencies to be acquired:

Integral competency (IC): the ability to solve complex tasks and problems in the field of veterinary medicine, which involves conducting research and/or implementing innovations and is characterized by uncertainty of conditions and requirements.

General competencies (GC):

- GC 2. Ability to apply knowledge in practical situations.
- GC 3. Knowledge and understanding of the subject area and the profession.
- GC 7. Ability to conduct research at an appropriate level.
- GC 9. Ability to make reasoned decisions.
- GC 12. Commitment to environmental protection.

- GC 13. Ability to make decisions and act in compliance with the principle of zero tolerance for corruption and any other manifestations of academic or professional misconduct.

Professional (special) competencies (PC):

- PC 2. Ability to use instruments, special devices, equipment, laboratory equipment and other technical means to perform the necessary manipulations during professional activity.
- PC 6. Ability to collect, package, preserve and send samples of biological material for laboratory testing.
- PC 7. Ability to organize and conduct laboratory and special diagnostic tests and analyze their results.
- PC 10. Ability to develop strategies for safe, sanitary-based animal keeping.
- PC 11. Ability to apply knowledge of biosafety, bioethics and animal welfare in professional activity.
- PC 16. Ability to protect the environment from pollution by livestock waste, as well as by veterinary materials and products.
- PC 19. Ability to carry out educational and awareness-raising activities among industry workers and the public.

Programme learning outcomes (PLO):

- PLO 7. Formulate conclusions regarding the effectiveness of selected methods and means of keeping, feeding and treating animals, preventing infectious and non-infectious diseases, as well as production and technological processes at enterprises for keeping, breeding or using animals of different classes and species.
- PLO 17. Know the rules and requirements of biosafety, bioethics and animal welfare.
- PLO 18. Maintain accounting and reporting documentation during professional activity.
- PLO 19. Carry out educational and awareness-raising activities among industry workers and the public.

Day One Competences:

1. Demonstrate understanding of the ethical and legal framework within which a veterinarian must work, including professional aspects, aspects related to animal welfare, animal owners, public health, and the social and environmental aspects associated with professional activity.
3. Demonstrate basic knowledge of organization, management and legislation related to veterinary practice. Understand the economic and emotional context in which a veterinarian works.

5. Communicate effectively with animal owners, the public, professional colleagues and relevant authorities, using language appropriate to the respective audience and adhering to the principles of full respect for confidentiality and privacy.
6. Apply the principles of effective interpersonal interaction, including communication, leadership, management, teamwork, mutual respect and other soft skills.
12. Use professional abilities to promote the development of veterinary knowledge and implement the One Health concept in order to support the health, safety and welfare of animals, humans and the environment, as well as to achieve the UN Sustainable Development Goals.
21. Assess the physical condition, welfare and feeding status of an animal or group of animals and advise the animal owner on the principles of keeping, feeding, reproduction, productive qualities, welfare, individual health, herd health and public health.
26. Access relevant sources of information and legislation concerning animal care and welfare, animal movement, notifications regarding animal care and welfare, animal movements, notifiable diseases, and the use of medicinal products, including the responsible use of antimicrobials.

2. Organization of Training Practice

The training practice is based on the working programme developed by the staff of the department and approved at the department meeting. The first working day of the practice begins with a safety briefing for completing the training practice, which is recorded in a specially designated register; thereafter, the practice proceeds according to the tentative thematic plan.

3. Practice Content

Students become familiar with the implementation of sanitary and hygienic measures in beekeeping, pig farming, poultry farming and horse breeding under the conditions of operating farms and advanced scientific laboratories of NULES of Ukraine.

Table 1

Tentative Thematic Plan

Topic title	Number of hours
Topic 1. Laws of Ukraine on veterinary medicine; Departmental Standards for Technological Design; State Building Codes; sanitary norms and rules.	5
Topic 2. Characteristics of systems and methods of cattle keeping. Microclimate indicators of livestock buildings. Methods for rearing young cattle.	5

Topic title	Number of hours
Topic 3. Characteristics of systems and methods of pig keeping. Assessment of the pig house microclimate. Manure removal systems in pig production.	5
Topic 4. Characteristics of systems and methods of horse keeping.	5
Topic 5. Characteristics of systems and methods of chicken keeping.	5
Credit test	
Total	25

4. Methodological Recommendations

- lecture notes and presentations (in electronic form);
- textbooks, study guides and practical manuals;
- methodological materials for studying the academic discipline for full-time higher education students;
- the training practice programme for the academic discipline.

5. Requirements for Report Writing

Every day after the practice, students prepare a practice report in a workbook or in electronic form in Microsoft Word. The report should include:

- the place where the practice was conducted, including the legal address;
- the object of examination;
- the animal keeping conditions;
- compliance of sanitary and hygienic measures at the farm with the requirements of Departmental Standards for Technological Design and the current regulatory acts of Ukraine;
- comments and suggestions for improving livestock production;
- a conclusion on the completion of the practice;
- the date and the trainee student's signature.

6. Forms and Methods of Control

- defence of the report;
- credit test.

Distribution of Points by Types of Educational Activity

Type of educational activity	Learning outcomes	Assessment
Training practice day 1	Be able to determine microclimate parameters in	14
Training practice day 2		14

Type of educational activity	Learning outcomes	Assessment
Training practice day 3	livestock buildings and carry out their sanitary and hygienic assessment from the standpoint of animal welfare.	14
Training practice day 4		14
Training practice day 5		14
Practice report	(d1 + d2 + d3 + d4 + d5) ≤ 70	
Examination		30
Total for the course	(practice report + credit test) ≤ 100	

Grading Scale for Higher Education Students

Student rating, points	Grade according to the national system (examinations/credit tests)
90-100	excellent
74-89	good
60-73	satisfactory
0-59	unsatisfactory

Assessment Policy

Policy on deadlines and retaking	Retaking the training practice is allowed with the permission of the practice supervisor if there are valid reasons (for example, sick leave). Admission to the credit test is granted if the student has at least 42 points for the report.
Academic integrity policy	Cheating during report preparation is prohibited, including the use of mobile devices.
Attendance policy	Completion of training practice assignments and preparation of the report are mandatory. For objective reasons (for example, illness or international internship), missed assignments are completed in face-to-face format, unless otherwise provided by orders of the Rector or directives of the Dean of the Faculty.

7. Educational and Methodological Support

- electronic training course of the academic discipline on the NULES of Ukraine eLearn portal – <https://elearn.nubip.edu.ua/course/view.php?id=1748>;
- lecture notes and presentations (in electronic form);
- textbooks, study guides and practical manuals;
- methodological materials for studying the academic discipline for full-time higher education students.

8. Recommended Information Sources

10.1. Main literature and methodological materials

1. Zakharenko M.O., Zasiakin D.A., Poliakovskiy V.M., Mykhalska V.M. General Animal Hygiene: study guide. Kyiv: NULES of Ukraine, 2024. 252 p.
2. Zakharenko M.O., Ibatullin I.I., Poliakovskiy V.M., Mykhalska V.M., Kryvenok M.Ya., Chepil L.V. Animal Keeping and Hygiene. Keeping Sheep and Goats: study guide. Part III. Kyiv: FOP Yamchynskiy O.V., 2021. 457 p.
3. Zakharenko M.O., Poliakovskiy V.M., Chepil L.V., Mykhalska V.M., Shevchenko L.V., Kurbatova I.M. Animal Keeping and Hygiene. Keeping Pigs: study guide. Part IV. Kyiv: FOP Yamchynskiy O.V., 2022. 425 p.
4. Zakharenko M.O., Poliakovskiy V.M., Mykhalska V.M., Chepil L.V., Shevchenko L.V., Kurbatova I.M. Animal Keeping and Hygiene. Requirements for Water, Water Supply and Wastewater Disposal at Livestock Enterprises: study guide. Part V. Kyiv: FOP Yamchynskiy O.V., 2023. 536 p.
5. Poliakovskiy V., Mykhalska V., Chepil L., Syrotina O. Animal husbandry and hygiene. Keeping poultry. Part I. Kyiv: NPE Yamchynskiy O.V., 2023. 504 p.
6. Poliakovskiy V., Mykhalska V., Chepil L., Syrotina O. Animal husbandry and hygiene. Keeping poultry. Part II. Kyiv: NULES of Ukraine, 2023. 389 p.
7. Zakharenko M.O., Poliakovskiy V.M., Mykhalska V.M., Shevchenko L.V. Ethology and Animal Welfare: textbook. Kyiv: NULES of Ukraine, 2021. 625 p.

Methodological materials for studying the academic discipline for full-time higher education students:

Zakharenko M.O., Zasiakin D.A., Poliakovskiy V.M., Mykhalska V.M., Solomon V.V. Methodological Manual for Laboratory Classes in the Discipline "Animal Hygiene" for students of the Faculty of Veterinary Medicine. Kyiv: Aristei, 2023. 198 p.

Training practice programme for the academic discipline:

Zasiakin D.A., Zakharenko M.O., Poliakovskiy V.M., Mykhalska V.M., Solomon V.V., Dymko R.O. Workbook for Conducting Training Practice by Students of the Faculty of

Veterinary Medicine in the Discipline "Animal Hygiene". Kyiv: CP "Kompynt", 2019. 18 p.

10.2. Additional recommended sources

1. Bondar A.O., Poruchnyk M.M., Tarasenko L.O., Rud V.O. Animal Hygiene and Veterinary Sanitation: study guide / ed. by A.O. Bondar. Mykolaiv: MNAU, 2018. 179 p.
2. Voroniak V.V., Chorny M.V., Mylostyvyi R.V. Veterinary Hygiene and Sanitation: practical manual. Lviv: FOP Korpan B.I., 2023. 284 p.
3. Dovzhenko L.V., Linkova I.K. Hygiene with Fundamentals of Ecology: educational and methodological manual for medical higher education institutions of I-III accreditation levels. Approved by the Ministry of Health. Kyiv, 2017. 49 p.
4. Lastkov D.O., Serheta I.V., Shvydkyi O.V., Serhienko A.Yu. et al. Fundamentals of Ecology and Preventive Medicine: textbook for medical higher education institutions of I-III accreditation levels. Approved by the Ministry of Health. Kyiv, 2017. 472 p.
5. Polishchuk V.M., Zasiakin D.A., Bilko T.O., Poliakovskiy V.M., Solomon V.V. Hygiene and Features of Transporting Animals and Livestock Products. Kyiv: Tsentr Uchbovoi Literatury, 2020. 520 p.
6. Zakharenko M.O., Poliakovskiy V.M., Mykhalska V.M., Shevchenko L.V., Chepil L.V. Industrial Ecology of Processing Enterprises: study guide. Kyiv: FOP Yamchynskiy O., 2024. 400 p.
7. Departmental Standards for Technological Design. Poultry Enterprises VNTD-APK 04.05. Ministry of Agrarian Policy of Ukraine. Kyiv, 2005. 90 p.
8. System for manure removal, treatment, preparation and use. VNTD-SHIP-46-4-94. Kyiv: Noosfera, 1994. 36 p.
9. Departmental Standards for Technological Design. Cattle Enterprises (Complexes, Farms, Small Farms) VNTD-APK-01.05. Ministry of Agrarian Policy of Ukraine. Kyiv, 2005. 112 p.
10. Departmental Standards for Technological Design. Pig Enterprises (Complexes, Farms, Small Farms) VNTD-APK-02.05. Ministry of Agrarian Policy of Ukraine. Kyiv, 2005. 98 p.
11. Departmental Standards for Technological Design. Sheep and Goat Enterprises VNTD-APK-03.05. Ministry of Agrarian Policy of Ukraine. Kyiv, 2005. 88 p.
12. Departmental Standards for Technological Design. Horse Enterprises VNTD-APK-06.07. Ministry of Agrarian Policy of Ukraine. Kyiv, 2007. 56 p.
13. Departmental Standards for Technological Design. Fur Farming and Rabbit Breeding Enterprises VNTD-APK-05.07. Ministry of Agrarian Policy of Ukraine. Kyiv, 2008. 68 p.
14. Mezhenyskyi H., Povod M., Mykhalko O., Borshchenko V., Verbelchuk S., Lavryniuk O., Verbelchuk T., Mykhalska V. The efficiency of raising hybrid piglets

of English origin in a two-phase method with different durations. Scientific Papers Series Management, Economic Engineering in Agriculture and Rural Development. 2024. Vol. 24, Issue 3. P. 559-568. URL: https://managementjournal.usamv.ro/pdf/vol.24_3/volume_24_3_2024.pdf

15. Oliynyk V., Zacharenko M., Shevchenko L., Mykhalska V., Poliakovskiy V., Slobodyanyuk N., Ivaniuta A., Pylypchuk O., Omelian A., Gruntkovskiy M. Evaluation of metabolic status in Holstein cow under short-term cold stress. Online Journal of Animal and Feed Research. 2025. Vol. 15, Issue 2. P. 60-67. URL: <https://www.scopus.com/record/display.uri?eid=2-s2.0-105003498128&origin=recordpage>

10.3. Information resources

1. Rules for keeping horses. <https://viking.com.ua/blog/pravila-utrimannya-koney>
2. Practical guide to horse keeping. <https://eu.worldhorsewelfare.org/documents/horse-guide/ukranian-version-eu-horse-guide.pdf>
3. Technology of sheep keeping. <https://agro-business.com.ua/tvarynnytstvo-ta-veterynariya/vivcharstvo/item/7979-tekhnohiiia-utrymannia-ovets.html>
4. Organization of sheep breeding. <http://feb.tsatu.edu.ua/ebook/mn/ov/page15.html>
5. Pasture keeping of sheep. <http://lib.osau.edu.ua/jspui/bitstream/123456789/4096/1/%D0%9F%D0%B0%D1%81%D0%BE%D0%B2%D0%B8%D1%89%D0%BD%D0%B5%20%D1%83%D1%82%D1%80%D0%B8%D0%BC%D0%B0%D0%BD%D0%BD%D1%8F%20%D0%BE%D0%B2%D0%B5%D1%86%D1%8C.pdf>
6. Breeding Romanov sheep at home. <https://www.hrytsivrada.gov.ua/korysna-informatsiia/rozvedennia-ovets-romanivskoi-porody-v-domashnikh-umovakh/>
7. On approval of Veterinary and Sanitary Requirements for Keeping Poultry in Private Household Farms. <https://ips.ligazakon.net/document/RE13309>
8. Modern systems for keeping laying hens. <http://market.avianua.com/?p=4181>
9. Specific features of pond fish farming and methods of fish breeding in fish farms. https://sm.darg.gov.ua/_osoblivosti_stavkovogo_0_0_0_1778_1.html
10. Creating a business for breeding and selling fish in Ukraine. <https://business-broker.com.ua/blog/stvoriuiemo-biznes-z-rozvedennia-ta-prodazhu-ryby-v-ukraini/>
11. Pig production. <http://svynarstvo.in.ua/>
12. Animals. <http://agroua.net/animals/>
13. Agro-business. <http://www.agro-business.com.ua/>
14. Agrosoyuz: dairy livestock consulting. <http://www.agrosoyuz.com.ua/konsalting/molochnoe-zhivotnovodstvo/>
15. Kombikorm news. <http://kombikorm.com.ua/news/>

16. Waste disposal methods: world experience. <http://efm.vsau.org/files/pdfa/2695.pdf>
17. Waste utilization as one of the ways to green production. http://elartu.tntu.edu.ua/bitstream/lib/21344/2/IRSP_2017_Melnyk_L-Waste_utilization_as_a_way_39-40.pdf
18. Waste recycling in developed countries of the world. <http://www.biowatt.com.ua/analitika/pererobka-vidhodiv-v-rozvinenih-krayinah-svitu/>
19. Combating production waste. http://pidruchniki.com/14201126/ekologiya/borotba_vidhodami_virobnitstva
20. The essence of anthropogenic environmental problems. http://pidruchniki.com/75688/ekologiya/sutnist_antropogennih_problem_dovkillya#58
21. Regulatory and legal support for environmental expertise. http://pidruchniki.com/75691/ekologiya/normativno-pravove_zabezpechennya_ekologichnoyi_ekspertizi#79
22. Monitoring wastewater pollution from dairy processing enterprises. <http://science.lpnu.ua/sites/default/files/journal-paper/2017/jun/4108/givlyud.pdf>
23. Sorption treatment of wastewater from dairy processing enterprises from lactic acid. <http://eco.com.ua/content/sorbciyne-ochyshchennya-stichnyh-vod-molokopererobnyh-pidpryyemstv-vid-molochnoyi-kysloty>
24. Environmental safety in poultry production. <http://eztuir.ztu.edu.ua/jspui/bitstream/123456789/1420/1/32.pdf>
25. On approval of the Rules for receiving wastewater into centralized sewerage systems and the Procedure for determining charges for excess discharges. <http://zakon3.rada.gov.ua/laws/show/z0056-18>
26. Optimal selection of methods for treating wastewater and surface water. <http://www.dgma.donetsk.ua/docs/konf/2017/mkonf2017/dopovidy/mat.model/%D0%A5%D0%B0%D0%BB%D0%B0%D0%BD%D1%87%D1%83%D0%BA-%D0%9A%D0%BE%D1%80%D0%BE%D1%82%D1%83%D0%BD.pdf>
27. Environmental protection technologies. Wastewater treatment methods. <http://vasilkivskiy.vk.vntu.edu.ua/file/046f9e799944569d40999cc83ed343c7.pdf>