*Federal State Autonomous Educational Institution of Higher Education "Peoples' Friendship University of Russia"*

*Agrarian and Technological Institute*

*Recommended by ISSC*

AGREED
ISSC Chairman

_____ (Yu.A. Vatnikov)

No. _____

"___" _____ 20 ___

APPROVED
Chairman
Of the Academic Council of Agrarian
Institute of Technology
_____ (E.A. Dovletyarova)
Scientific Council meeting minutes
agrarian-technological institute
No. _____

"___" _____ 20 ___

# TRAINING PRACTICE PROGRAM

**Name of training practice Animal anatomy, animal hygiene, animal breeding**

**Recommended for the direction of training / specialty**
**36.05.01 Veterinary Medicine**

**Profile of the program**
**Clinical veterinary medicine.**

**Graduate qualification Veterinarian.**

Moscow
2021

## 1. Aims of educational practice

The purpose of educational practice in Animal Anatomy is to consolidate and deepen theoretical anatomical knowledge, as well as to acquire practical skills in the study of anatomical material.

The purpose of the educational practice in Animal Hygiene is to consolidate theoretical knowledge and practical skills and knowledge acquired during the study of the course "Animal Hygiene", to acquire practical skills in conducting sanitary - hygienic and preventive measures to increase the natural resistance of animals to obtain maximum productivity, the implementation of zoohygienic control ...

The objectives of the educational practice in animal breeding are to consolidate and deepen the theoretical training of the student, to acquire practical skills and competencies in the field of animal science: breeding methods and biotechnology, technology of keeping, feeding and caring for animals of different biological species.

## 2. Objectives of educational practice:

The purpose of educational practice in Animal Anatomy is to consolidate and deepen theoretical anatomical knowledge, as well as to acquire practical skills in the study of anatomical material.

The purpose of the educational practice in Animal Hygiene is to consolidate theoretical knowledge and practical skills and knowledge acquired during the study of the course "Animal Hygiene", to acquire practical skills in conducting sanitary - hygienic and preventive measures to increase the natural resistance of animals to obtain maximum productivity, the implementation of zoohygienic control ...

The objectives of the educational practice are methodically correct autopsy and mastering the technique of preparing the skin, skeletal muscles, joints, blood vessels, nerves and internal organs.

- Acquaintance with the method of manufacturing dry, wet and corrosive anatomical preparations.
- Successful and timely consolidation of the knowledge gained by students while listening to theoretical courses;
- Carrying out sampling of water, soil and feed, followed by determination and assessment of their quality.
- Zoohygienic assessment of livestock buildings in the conditions of the economy.
- Sanitary and hygienic assessment of enclosing structures in livestock farming.
- Determination of the effectiveness of natural and artificial ventilation. Water supply methods.
- The efficiency of sewerage and manure removal systems. Evaluation of the quality of the bedding material and the conditions for its storage.
- Methods of general and local heating of premises.
- Assessment of animals (by origin, exterior and constitution, by the quality of offspring); study of molecular genetic methods for the analysis of biological material;
- Mastering the methods of examination and control of technological processes in animal husbandry.
- Strengthening the skills of conducting independent work, as well as working with literary and special sources, with understanding the materials received, and summarizing the results in the form of a report, with its public defense by the entire educational group of students

Breeding tics are the consolidation and deepening of the theoretical training of the student, the acquisition of practical skills and competencies in the field of animal science: breeding methods and biotechnology, technology of keeping, feeding and caring for animals of different biological species.

## 3. Place of educational practice in the structure of EP HE:

Practice in Animal Anatomy, Animal Hygiene, Animal Breeding belongs to Block 2 "Educational Practice", is based on mastering the disciplines "Animal Anatomy", "Animal Hygiene", "Animal Breeding with the Basics of Private Animal Science" and is the final stage for its study.

To undergo practice in Animal Anatomy, Animal Hygiene, Animal Breeding, the student must:

**Know:**

- general patterns and specific features of the structure of animals in the age aspect;
- the importance of animal hygiene in veterinary medicine and animal husbandry
- hygienic requirements for air, water, feed and animal feeding;
- requirements for the organization of stall and pasture keeping of animals;
- zoohygienic requirements for cattle breeding, pig breeding, horse breeding and poultry breeding;
- the basics of selection and breeding work;
- general principles of selection, selection of breeding animals

**Be able to:**

- to determine the species according to anatomical features;
- to determine the topography and normative indicators of organs and systems of the body;
- to carry out zoohygienic and preventive measures;
- to take samples of water and feed with the subsequent determination of their quality,
- control the construction and operation of livestock buildings, as well as the state of their air environment,
- carry out veterinary expertise of projects,
- be able to provide optimal zoohygienic conditions for keeping, feeding, caring for animals;
- to assess the quality of breeding, agricultural, decorative and other animals;

**Obtain:**

- methods for assessing the topography of organs and systems of the body;
- methods of autopsy;
- Methods for determining individual microclimate indicators using special devices (thermometers, thermographs, psychrometer, hygrograph, luxmeter, anemometer, catathermometer, aspirators, etc.);
- skills in organizing and conducting general preventive measures in order to prevent diseases of farm animals;
- methods of selection, selection and culling of animals.

Practicing in Animal Anatomy, Animal Hygiene, Animal Breeding is a precursor to such theoretical disciplines as Animal Physiology and Ethology; Pathological physiology; Veterinary Microbiology and Mycology; Virology and Biotechnology; Veterinary Pharmacology; Internal non-communicable diseases; Obstetrics, Gynecology and Andrology;

Parasitology and invasive diseases; Epizootology and infectious diseases; Pathological anatomy and forensic veterinary examination; Veterinary genetics; Breeding with the basics of private animal husbandry; Zoopsychology; Private ethology,

as well as for practical training and preparation of the final qualifying work.

## 4. Forms of educational practice

1. Laboratory;
2. Museum;

3. Excursion;
4. Field.

**5. Place and time of the educational practice**

The main bases for conducting educational practice in Animal Anatomy, Animal Hygiene, Animal Breeding are:

- Anatomical Museum of the RUDN University, anatomical museum;
- Educational laboratories of RUDN University;
- Moscow State Academy of Veterinary Medicine and Biotechnology named after K. I. Skryabin: section hall, anatomical museum and vivarium;
- RSAU-Moscow Agricultural Academy named after K.A. Timiryazev. Anatomical Museum;
- CJSC "Sovkhoz named after Lenin", KSK "Matador",
- LLC KSK "Kaskad";
- AOZT Kommunarka;
- CJSC Sovkhoz im. Lenin "Leninsky district
- All-Russian Scientific Research Institute of Animal Husbandry named after Academician L.K. Ernst (Department of Biotechnology in Animal Husbandry).

Training practice in Animal Anatomy, Animal Hygiene, Animal Breeding is carried out at the end of the 2nd course in June-July, after the examination session and before the summer holidays.

**6. Competencies of the student, formed as a result of passing educational practice.**

As a result of passing this educational practice, the student must acquire the following practical skills, abilities, universal and professional competencies:

UC-12 Ability to search for the necessary sources of information and data, perceive, analyze, memorize and transmit information using digital means, as well as using algorithms when working with data obtained from various sources in order to effectively use the information received to solve problems;

evaluate information, its reliability, build logical conclusions based on incoming information and data..

GPC-1 Ability to determine the biological status and normative clinical indicators of organs and systems of the animal body.

GPC-2 Ability to interpret and evaluate in professional activity the influence of natural, socio-economic, genetic and economic factors on the physiological state of the animal organism.

GPC-6 Ability to analyze, identify and assess the risk of disease occurrence and spread.

PC-26 Ability to collect and analyze scientific information, develop plans, programs and methods for conducting scientific research, conduct scientific research and experiments

**7. The structure and content of educational practice.**

The total workload of the training practice is 3 credit points 108 hours.

| № | Sections (stages) of practice | Types of educational work in practice, including independent work of students | | | | Monitoring forms |
|---|---|---|---|---|---|---|
| 1. | Laboratory practice | Laboratory practice (7 hours, including 5 hours IWS) | Field practice (66 hours, including CDS 36 hours) | | | Defense of the report, presentation of the practice diary. |
| 2. | Animal anatomy | Laboratory practice (6 hours, including IWS 3 hours) | Museum practice (5 hours, including IWS 2 hours) | | | Defense of the report, presentation of the practice diary. |
| 3. | Animal breeding | Laboratory practice (4 hours, including IWS 3 hours) | Excursion practice (20 hours, including 5 hours IWS) | | | Defense of the report, presentation of the practice diary. |

**8. Educational, research and scientific-production technologies used in educational practice.**

During the practice, the following educational, research and scientific-production technologies are used:

1. Study and description of wet and dry anatomical preparations, including on the basis of their photographs.
2. Studying the technique of preparing anatomical preparations.
3. Work with information stands, anatomical dummies and 3d-models of anatomical structures.
4. Studying the principles of working with special scientific literature.
5. Training in the rules of sampling at livestock farms.
6. Mastering and working out the technique of zoohygienic examination of enterprises and fixing the initial data.
7. Studying the principles of systematization and analysis of the data obtained;
8. Empirical, theoretical, production (practical) foundations for assessing animals;
9. Gaining experience in using hardware and software and methods for controlling technological processes in animal husbandry.

**9. Educational and methodological support of independent work of students in educational practice.**

Control questions and tasks for conducting the current certification by sections (stages) of practice, mastered by the student independently, are given in the fund of assessment tools.

**10. Educational-methodical and informational support of educational practice.**

**a) main literature:**

1. Zelenevsky, NV Anatomy of animals: a textbook for universities / NV Zelenevsky, MV Shchipakin. - 2nd ed., Erased. - St. Petersburg: Lan, 2021 .-- 484 p. https://e.lanbook.com/book/156938

2. Markova, MV Anatomy of animals: a tutorial / MV Markova. - Omsk: Omsk GAU, 2018 .-- 129 p. https://e.lanbook.com/book/111404

3. Workshop on animal hygiene: textbook / A.F. Kuznetsov, V.G. Tyurin, V.G. Semenov [and others]; under total. ed. A.F. Kuznetsova. - 2nd ed., Rev. and add. ; Electronic text data. - St. Petersburg: Quadro, 2020 .-- 384 p. http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn_FindDoc&id=487551&idb=0

4. Volkov G.K. Hygiene of animals: textbook / G.K. Volkov, I.R. Smirnov. - Electronic text data. - St. Petersburg: Quadro, 2020 .-- 504 p. http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn_FindDoc&id=487546&idb=0

5. Workshop on private zoo hygiene with the basics of keeping animals: a tutorial. Book 2: Agricultural poultry, pigs, horses, fur animals, bees, laboratory animals / A.F. Kuznetsov, V.G. Tyurin, V.G. Semenov [and others]; under total. ed. A.F. Kuznetsova. - Electronic text data. - St. Petersburg: Quadro, 2019 .-- 304 p. http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn_FindDoc&id=487538&idb=0

6. Workshop on private zoohygiene with the basics of keeping animals: a tutorial. Book 1: Cattle, Sheep, Goats, Camels / A.F. Kuznetsov, V.G. Tyurin, V.G. Semenov [and others]; under total. ed. A.F. Kuznetsova. - Electronic text data. - St. Petersburg: Quadro, 2019 .-- 256 p. http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn_FindDoc&id=487537&idb=0

7. Methods for the diagnosis of diseases of farm animals: textbook / AP Kurdeko, SP Kovalev, VN Aleshkevich [and others]; edited by A.P. Kurdeko, S.P. Kovalev. - 2nd ed., Erased. - St. Petersburg: Lan, 2020 .-- 208 p. https://e.lanbook.com/book/129095

8. Tunikov G.M.

Animal breeding with the basics of private zootechnics: textbook / G.M. Tunikov, A.A. Korovushkin. - 3rd ed., Erased. - SPb. : Publishing house "Lan", 2017. - 744 p. http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn_FindDoc&id=465012&idb=0

9. Breeding animals with the basics of private animal husbandry: a tutorial. Part 1: Breeding animals / A.A. Nikishov, P.M. Klenovitsky, T.S. Kubatbekov, A.N. Vetoh. - Electronic text data. - M.: Publishing house of RUDN, 2017 .-- 116 p. http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn_FindDoc&id=460026&idb=0

10. Tsarenko P.P.

Introduction to animal husbandry: textbook / P.P. Tsarenko, A.F. Shevkhuzhev. - SPb. : Publishing house "Lan", 2017. - 300 p. http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn_FindDoc&id=464948&idb=0

11. Usmanova, E. N. Animal breeding with the basics of private animal husbandry: a tutorial / E. N. Usmanova, E. D. Buzmakova, A. V. Kovrov. - Kirov: Vyatka State Agricultural Academy, 2018 .-- 177 p. https://e.lanbook.com/book/129597

12. Animal breeding: textbook / V. G. Kakhikalo, N. G. Fenchenko, O. V. Nazarchenko, S. A. Gritsenko. - St. Petersburg: Lan, 2020 .-- 336 p. https://e.lanbook.com/book/133905

**b) additional literature:**

1. Chikalev, A. I. Fundamentals of animal husbandry: textbook / A. I. Chikalev, Yu. A. Yuldashbaev. - St. Petersburg: Lan, 2015 .-- 208 p. https://e.lanbook.com/book/56175

2. Vasiliev, VK Veterinary ophthalmology and orthopedics: a tutorial / VK Vasiliev, AD Tsybikzhapov. - 2nd ed., Erased. - St. Petersburg: Lan, 2020 .-- 188 p. https://e.lanbook.com/book/147140

3. Vrakin V.F. Morphology of farm animals (anatomy with the basics of cytology, embryology and histology): textbook for universities / V.F. Vrakin, M.V. Sidorov. - Electronic text

data. - St. Petersburg: Quadro, 2020 .-- 620 p. http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn_FindDoc&id=487756&idb=0

4. Badluev, EB Obstetrics and gynecology of farm animals. Workbook for laboratory and practical exercises and independent work: a tutorial / E. B. Badluev, B. D. Eshizhamsoev, A. D. Tsybikzhapov. - St. Petersburg: Lan, 2019 .-- 80 p. https://e.lanbook.com/book/113386

5. Hygiene of keeping animals: textbook / A.F. Kuznetsov, V.G. Tyurin, V.G. Semenov [and others]; Ed. A.F. Kuznetsova. - SPb. : Publishing house "Lan", 2017. - 380 p. http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn_FindDoc&id=464970&idb=0

6. Production activity of veterinary sanitary examination laboratories at meat-processing enterprises and food markets: textbook / I.G. Seregin, T.V. Kurmakaeva, V.E. Nikitchenko, L.P. Mikhalev. - Electronic text data. - M.: Publishing house of RUDN, 2015 .-- 309 p. http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn_FindDoc&id=439860&idb=0

7. Clinical gastroenterology of animals: textbook / II Kalyuzhny, GG Shcherbakov, AV Yashin [and others]; edited by I. I. Kalyuzhny. - 2nd ed., Rev. - St. Petersburg: Lan, 2015 .-- 448 p. https://e.lanbook.com/book/61362

8. Animal feeding and feed technology: a tutorial / NI Torzhkov, I. Yu. Bystrova, AA Korovushkin [and others]. - Ryazan: RGATU, 2019 .-- 163 p. https://e.lanbook.com/book/137432

9. Shevkhuzhev, A. F. Fundamentals of zootechnics: a textbook for sports / A. F. Shevkhuzhev. - 2nd, erased. - St. Petersburg: Lan, 2021 .-- 280 p. https://e.lanbook.com/book/162392

10. Poultry farming: a tutorial / compilers E. P. Lyubimova, A. S. Davydova. - pos. Karavaevo: KGSKhA, 2017 .-- 158 p. https://e.lanbook.com/book/133648

11. Breeding of farm animals with the basics of private animal husbandry: guidelines / compiled by A. I. Lyubimov [and others]. - Izhevsk: Izhevsk State Agricultural Academy, 2020 .-- 40 p. https://e.lanbook.com/book/158590

12. SanPiN 2.2.1./2.1.1. 1200-03. Sanitary protection zones and sanitary classification of enterprises, structures and other objects.

13. NTP for cattle (NTP 1-99).

14. NTP for pig breeding enterprises (VNTP 2-96).

15. NTP for horse breeding enterprises (NTP –APK 1.10.04.001-00).

16. NTP of poultry enterprises (NTP – APK 1.10.05.001-01).

17. SNiP 23.05-95 Natural and artificial lighting.

**c) software and Internet resources:**

- Windows 7 Enterprise
- Microsoft Office.

1.www.cnshb.ru,
2.www.elibrary.ru,
3.www.vet.purdue.edu,
4.www.allvet.ru,
5.www.glossary.ru,
6.www.vetmed.edu
7.https://www.ncbi.nlm.nih.gov/pubmed
8.http: //www.uchvuz.ru
9.http: //www.veterinarka.ru
10.www.allvet.ru
11.https: //www.medlit.biz

**10. Material and technical support of medical practice.**

• Equipped laboratory classrooms;
  o Classroom board
  o Anatomical layouts
  o Anatomical posters
  o Handout for Mammalian Skeleton Components
  o Wet anatomical specimens
  o Dry anatomical preparations
• Equipment:
  o Laboratory classrooms are equipped with: devices for studying the microclimate and determining the quality of feed and water and soil.
  o Equipment for microclimate control (thermometers, thermographs, hygrographs, psychrometers, anemometers, luxmeters, aspirators, gas analyzers).
  o Water quality control equipment (chemical analysis of water, Snellen cylinders).
  o Equipment for sanitary evaluation of feed (scales and laboratory glassware)
  o Wilkens' compasses,
  o Measuring stick, measuring tape,
  o Equipment of the laboratory for incubation and control of genetic processes in animal husbandry,
  o Equipment of laboratories of the Center for Biotechnology and Molecular Diagnostics of the VIZh im. L.K. Ernst.

**11. Forms of intermediate certification (based on the results of practice).**

***Based on the results of passing educational practice, the student prepares for each section of the practice:***

1. Diary. The main document reflecting the volume and quality of the student's work during practice. (TUIS)
2. Report. A bound document, drawn up and supplemented with illustrations, made according to the regulations for the preparation of a report on educational practice. (TUIS)

***Interim certification is carried out in the form of:***

1. Checking and evaluating the trainee's diary in accordance with the point-rating system.
2. Defense the diary through an interview.
3. Checking and evaluating the practice report in accordance with the point-rating system.
4. Defense the report by public speaking.

**Description of indicators, criteria and scale for assessing competencies**

| GRS points | Traditional RF assessments | Evaluations ECTS |
|---|---|---|
| 95 - 100 | 5 | A |
| 86 - 94 | | B |
| 69 - 85 | 4 | C |
| 61 - 68 | 3 | D |
| 51 - 60 | | E |
| 31 - 50 | 2 | FX |
| 0 - 30 | | F |
| 51-100 | Credit | Passed |

Explanation of the grades table:
**Description of ECTS grades**

| | |
|---|---|
| **A** | "**Excellent**" - the theoretical content of the course is fully mastered, without gaps, the necessary practical skills for working with the acquired material are formed, all the educational tasks provided for by the training program are completed, the quality of their implementation is assessed by the number of points close to the maximum. |
| **B** | "**Very good**" - the theoretical content of the course has been mastered completely, without gaps, the necessary practical skills for working with the mastered material have basically been formed, all the educational tasks provided for by the training program have been completed, the quality of most of them is assessed by the number of points close to the maximum. |
| **C** | "**Good**" - the theoretical content of the course has been mastered completely, without gaps, some practical skills of working with the acquired material are not sufficiently formed, all the educational tasks provided for by the training program have been completed, the quality of performance of none of them was not assessed by the minimum number of points, some types of tasks were completed with errors. |
| **D** | "**Satisfactory**" - the theoretical content of the course is partially mastered, but the gaps are not significant, the necessary practical skills for working with the mastered material are basically formed, most of the educational tasks provided for in the training program have been completed, some of the completed tasks may contain errors. |
| **E** | "**Satisfactory**" - the theoretical content of the course is partially mastered, some practical skills have not been formed, many of the educational tasks provided for by the training program have not been completed, or the quality of some of them is assessed by the number of points close to the minimum. |
| **FX** | "**Conditionally unsatisfactory**" - the theoretical content of the course has been mastered in part, the necessary practical skills have not been formed, most of the educational tasks provided for by the training program have not been completed, or the quality of their implementation was assessed by the number of points close to the minimum; with additional independent work on the course material, it is possible to improve the quality of the performance of educational tasks. |
| **F** | "**Certainly unsatisfactory**" - the theoretical content of the course has not been mastered, the necessary practical skills have not been formed, all completed study tasks contain gross errors, additional independent work on the course material will not lead to any significant improvement in the quality of the study tasks. |

The program has been drawn up in accordance with the requirements of the ES of HE RUDN

**Developers:**

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(signature)

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Department
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