

*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 **Biology with the basics of ecology and an introduction to the specialty.**

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 in Biology with the basics of ecology and introduction to the specialty.**

The aims of the educational practice in Biology with the basics of ecology are:

- consolidation of theoretical knowledge and practical skills and abilities obtained during the study of the course "Biology with the basics of ecology";
- acquaintance with the main systematic groups of invertebrates and vertebrates;
- mastering the methods of collecting living objects in nature;
- mastering the methods of biological observation;
- familiarization with the methods of determining insects;
- identification of species of mammals and birds by skulls, skins and museum stuffed animals, study of aquatic fauna, as well as familiarization with the diversity of the fauna of Russia and adjacent territories.

The objectives of the study practice for Introduction to the specialty are:

- to provide familiarity with various aspects of the activities of veterinarians;
- the formation of interest in the study of disciplines of subsequent courses.

## **2. Objectives of educational practice in Biology with the basics of ecology and introduction to the specialty:**

- Study of the organization and conduct of biological excursions to various natural ecological communities;
- Mastering the methods of collection and determination of biological material;
- Observation of animals in natural and artificial conditions;
- Formation of a biological representation of the integrity of the studied ecosystem and the relationship of its inhabitants.
- Acquaintance with the rules of behavior in nature and animal protection measures in relation to local conditions.
- Strengthening the skills of conducting independent work, as well as working with literary and special sources.
- Study of various aspects of the work of veterinarians in the conditions of organizations of different levels and directions (agricultural enterprises, state stations for combating animal diseases, private veterinary clinics and veterinary offices, veterinary laboratories, etc.)
- Analysis of the career development of a veterinarian in various organizations using examples available for review, incl. in a digital professional environment.
- Creation of an individual career development plan for the next 10 years, including the choice of objects of activity and areas of specialization.

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

The practice in Biology with the basics of ecology, medicinal and poisonous plants belongs to Block 2 "Educational practice", is based on mastering the disciplines "Biology with the basics of ecology" and "Introduction to the specialty" and is the final stage for their study.

To undergo practical training in Biology with the basics of ecology and an introduction to the specialty, the student must:

### **Know:**

- the basics of the taxonomy of the animal world;
- features of the biology of certain species of wild animals, the origin and development of life;
- environmental laws as a complex regulating the interaction of nature and society;

- the main directions of work of veterinary services and their functions.

**Be able to:**

- competently explain the processes occurring in the body, from the point of view of general biological and ecological science;
- to determine the biological status and normative clinical indicators of organs and systems of the animal body;
- apply innovative methods of scientific research in veterinary medicine and biology;
- to substantiate conclusions, to operate with concepts when explaining natural phenomena.

**Obtain:**

Practicing in Biology with the basics of ecology and an introduction to the specialty is the precursor for 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 industrial practice and preparation of 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 Biology with the basics of ecology and an introduction to the specialty are:

- Southwest Forest Park;
- GAU "Moscow Zoo";
- Center for Oceanography and Marine Biology "Moskvarium";
- NI Zoological Museum of Moscow State University;
- Darwin Museum;
- Paleontological Museum of the Russian Academy of Sciences;
- Laboratory in Kosino / VIEW;
- Mosvetobedinenie;
- Maxima-vet / Kovacs;
- Radenis / Medvet.

Educational practice in Biology with the basics of ecology and an introduction to the specialty is carried out at the end of the 1st course, 2nd semester after the examination session in accordance with the working curriculum and the schedule of the educational process.

**6. Competencies of the student, formed as a result of passing educational practice in Biology and introduction to the specialty.**

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

UC-3 Ability to organize and manage the work of a team, developing a team strategy to achieve a set goal.

UC-6 Ability to determine and implement the priorities of one's own activity and ways to improve it based on self-esteem and education throughout life.

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..

PC-26 The 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 in Biology with the basics of ecology, an introduction to the specialty.**

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
		Laboratory practice (14 hours, including SSW 6 hours)	Museum practice (15 hours, including 5 hours SSW)	Field practice (15 hours, including 5 hours SSW)	Writing a report, filling out a practice diary (10 hours)	
1.	Biology	Laboratory practice (14 hours, including SSW 6 hours)	Museum practice (15 hours, including 5 hours SSW)	Field practice (15 hours, including 5 hours SSW)	Writing a report, filling out a practice diary (10 hours)	Protection of the report, presentation of the practice diary.
2.	Introduction to the specialty	Sightseeing tour (44 hours)	Writing a report, filling out a practice diary (10 hours)	Solution of clinical and industrial problems in the process of daily activities of a practitioner (120 hours)	Filling out the practice diary and preparing the trainee's report (38 hours, including SSW - 23 hours)	Protection of the report, presentation of the practice diary.

### **8. Educational, research and scientific-production technologies used in educational practice in biology and medicinal plants.**

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

1. Studying the principles of using biological determinants and working with special scientific literature.

2. Training in the rules of collection and further work with biological material.
3. Mastering and practicing the technique of observing the flora and fauna of the environment and fixing the initial data.
4. Studying the principles of systematization and analysis of the data obtained.
5. Study of various aspects of the work of veterinarians in the conditions of organizations of different levels and directions (agricultural enterprises, state stations for combating animal diseases, private veterinary clinics and veterinary offices, veterinary laboratories, etc.)
6. Analysis of the career development of a veterinarian in various organizations using examples available for review, incl. in a digital professional environment.
7. Creation of an individual career development plan for the next 10 years, including the choice of objects of activity and areas of specialization.

### **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 in Biology.**

#### **a) main literature:**

1. Biology with the basics of ecology: a tutorial / V. M. Tsarevskaya, M. V. Kovalenko, E. Kh. Nechaeva, N. A. Melnikova. - Samara: SamGAU, 2018 .-- 125 p. <https://e.lanbook.com/book/109418>
2. Kolesnikova, I. Ya. Biology with the basics of ecology: teaching aid / I. Ya. Kolesnikova. - Yaroslavl: Yaroslavl State Agricultural Academy, 2017 .-- 112 p. <https://e.lanbook.com/book/131314>
3. Medvedeva, SM Biology with the basics of ecology: a tutorial / SM Medvedeva. - Voronezh: Voronezh State University, 2017 .-- 111 p. <https://e.lanbook.com/book/154750>
4. Methodology of scientific research: textbook for universities / N. A. Slesarenko, E. N. Borkhunova, S. M. Borunova [and others]; edited by N. A. Slesarenko. - 5th ed., Erased. - St. Petersburg: Lan, 2021 .-- 268 p. <https://e.lanbook.com/book/156383>
5. Tsarenko, P. P. Introduction to animal husbandry: textbook / P. P. Tsarenko, A. F. Shevkhuzhev. - 2nd ed., Erased. - St. Petersburg: Lan, 2019 .-- 300 p. <https://e.lanbook.com/book/113146>
6. Dar'in, AI Methodological instructions for the implementation of the final qualification work: methodical instructions / AI Dar'in, GV Ilyina, VV Lyashenko. - Penza: PGAU, 2018 .-- 73 p. <https://e.lanbook.com/book/131061>
7. 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>

#### **b) additional literature:**

1. Shabasheva, S. V. Biology with the basics of ecology: a tutorial / S. V. Shabasheva. - Kemerovo: KemSU, 2016 .-- 127 p. <https://e.lanbook.com/book/92382>
2. Novak, AI Biology with the basics of ecology: a tutorial / AI Novak, I. Yu. Bystrov, OA Fedosova. - Ryazan: RGATU, 2016 .-- 165 p. <https://e.lanbook.com/book/144268>
3. Shamsuvaleeva, E. Sh. Biology with the basics of ecology: a tutorial / E. Sh. Shamsuvaleeva. - Kazan: Povolzhskaya GAFKSiT, 2016 .-- 52 p. <https://e.lanbook.com/book/154940>

4. Biology with the basics of ecology: a tutorial / S. A. Nefedova, A. A. Korovushkin, A. N. Bachurin, E. A. Shashurina. - 2nd ed., Rev. - St. Petersburg: Lan, 2015 .-- 368 p. <https://e.lanbook.com/book/58167>

5. Nikitin, IN History of veterinary medicine: a textbook for vo / IN Nikitin. - 4th ed., Rev. and add. - St. Petersburg: Lan, 2020 .-- 332 p. <https://e.lanbook.com/book/143680>

6. Bondarenko, OV History and philosophy of science: textbook / OV Bondarenko, OP Ilyina. - Irkutsk: Irkutsk GAU, 2017 .-- 269 p. <https://e.lanbook.com/book/133357>

7. Nikitin, IN Legal support of veterinary activity: a textbook for professional training / IN Nikitin. - 2nd ed., Erased. - St. Petersburg: Lan, 2021 .-- 212 p. <https://e.lanbook.com/book/155692>

### **c) software and Internet resources:**

- Windows 7 Enterprise
- Microsoft Office.

1. [www.cnsnb.ru](http://www.cnsnb.ru),
2. [www.elibrary.ru](http://www.elibrary.ru),
3. [www.vet.purdue.edu](http://www.vet.purdue.edu),
4. [www.allvet.ru](http://www.allvet.ru),
5. [www.glossary.ru](http://www.glossary.ru),
6. [www.vetmed.edu](http://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](http://www.allvet.ru)
11. <https://www.medlit.biz>

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

- Equipped laboratory classrooms
- Equipment
  - o Multimedia installations
  - o Operating lamps
  - o Light optical microscopes,
  - o Stereoscopic binoculars,
  - o Teaching demo tables,
  - o Posters,
  - o Stands and diagrams for the zoological description of animals,
  - o Micropreparations,
  - o Laboratory glassware,
  - o Insect nets,
  - o Dissecting needles,
  - o Excursion zoological bucket with mesh lid,
  - o Stain for terrestrial insects,
  - o Teaching tables,
  - o Living plant material,
  - o Collections of fixed generative and vegetative organs of plants,
  - o Educational herbarium.

### **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. Protecting the diary through an interview.
3. Checking and evaluating the practice report in accordance with the point-rating system.
4. Protecting 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**

<b>A</b>	“ <b>Excellent</b> ” - 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>B</b>	“ <b>Very good</b> ” - 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.
<b>C</b>	“ <b>Good</b> ” - 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.
<b>D</b>	“ <b>Satisfactory</b> ” - 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.

<b>E</b>	“ <b>Satisfactory</b> ” - 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.
<b>FX</b>	“ <b>Conditionally unsatisfactory</b> ” - 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.
<b>F</b>	“ <b>Certainly unsatisfactory</b> ” - 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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