

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

*Agrarian and Technological Institute*

*Recommended by ISSC*

**ACADEMIC COURSE WORKING PROGRAM**

**Discipline name Clinical diagnostics**

**Recommended for the direction of training / specialty**

**36.03.01 Veterinary-sanitary expertise**

## 1. Aims and objectives of the discipline:

The aim of the study of clinical diagnostics is the formation of fundamental and professional knowledge about the diagnosis of changes in physiological processes and functions in the body of mammals and birds, about their qualitative uniqueness in the body of productive farm animals, domestic, laboratory and exotic animals, necessary for a veterinarian to scientifically substantiate activities related to diagnosis and subsequent therapy of diseases, with the creation of optimal conditions for keeping, feeding and exploiting animals, preventing diseases, assessing health, the nature and degree of disorders in the activity of organs and the body, determining ways and methods of influencing the body in order to correct the activity of organs

### Objectives of the subject:

- study of partial and general deviations in the activity of cells, tissues, organs and the whole organism, mechanisms of neurohumoral regulation of physiological processes and functions in mammals and birds, the qualitative uniqueness of physiological processes in productive animals, behavioral reactions and mechanisms of their formation;

- the acquisition of skills in the study of physiological constants of functions and the ability to use the knowledge of clinical diagnostics in the practice of animal husbandry and veterinary medicine.

## 2. Place of discipline in the structure of EP ED:

Discipline "Clinical Diagnostics" refers to the basic part of Block 1 of the curriculum "Disciplines (modules)".

Table 1 shows the previous and subsequent disciplines aimed at the formation of discipline competencies in accordance with the competence matrix of EP HE.

Table № 1.

### Preceding and subsequent disciplines aimed at the formation of competencies

№	Code and name of competence	Preceding disciplines	Subsequent disciplines (groups of disciplines)
1.	The ability to determine the biological status, normative general clinical indicators of organs and organisms of animals and the quality of materials and products of animal and plant origin. (GPC-1)	Applied Animal Anatomy Biology Cytology, Histology and Embryology Fundamentals of Physiology Production veterinary and sanitary control	Milk and dairy products technology Quality management of products of biological origin Sanitary Microbiology
2.	The ability to conduct a pre-slaughter veterinary examination of animals to assess their health. (PC-1)	Applied Animal Anatomy Fundamentals of Physiology Pathological anatomy Infectious diseases Parasitic diseases Surgical diseases Toxicology with the basics of pharmacology	

		Non-communicable diseases Production veterinary and sanitary control	
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### 3. Requirements for the results of mastering the discipline:

The process of studying the discipline is aimed at the formation of the following competencies:

GPC-1 The ability to determine the biological status, normative general clinical indicators of organs and organisms of animals and the quality of materials and products of animal and plant origin.

PC-1 The ability to conduct a pre-slaughter veterinary examination of animals to assess their health.

As a result of studying the discipline, the student must:

**Know:**

- methods of asepsis and antisepsis;
- classification, syndromatics of diseases, their etiology;
- a picture of blood and other biological fluids in health and disease;

**Be able to:**

- to evaluate morphofunctional, physiological conditions and pathological processes in the body;
- to use basic and special methods of clinical research of animals;
- evaluate the results of laboratory tests;
- prescribe the necessary treatment in accordance with the diagnosis;
- to carry out advisory activities in the field of disease diagnostics;

**Obtain:**

- medical-technical and veterinary equipment, instruments and equipment for laboratory, diagnostic and therapeutic purposes;
- the technique of clinical examination of animals.

### 4. Scope of discipline and types of educational work

The total workload of the discipline is 2 credit units.

**Full-time education**

Type of educational work	Hours	Semesters			
		4	-	-	-
<b>Classroom lessons (total)</b>	72	72	-	-	-
Including:	-	-	-	-	-
<i>Lectures</i>	18	18	-	-	-
<i>Practical classes (PC)</i>	-	-	-	-	-
<i>Seminars (S)</i>	-	-	-	-	-
<i>Laboratory work (LW)</i>	36	36	-	-	-
<b>Self-study work (total)</b>	8	8	-	-	-
<b>Control</b>	10	10	-	-	-
Total labor intensity hour	72	72	-	-	-
credit	2	2	-	-	-

### Part-time education

Type of educational work	Hours	Semesters			
		4	-	-	-
<b>Classroom lessons (total)</b>	72	72	-	-	-
Including:	-	-	-	-	-
<i>Lectures</i>	-	-	-	-	-
<i>Practical classes (PC)</i>	-	-	-	-	-
<i>Seminars (S)</i>	-	-	-	-	-
<i>Laboratory work (LW)</i>	18	18	-	-	-
<b>Self-study work (total)</b>	38	38	-	-	-
<b>Control</b>	16	16	-	-	-
Total labor intensity hour	72	72	-	-	-
credit	2	2	-	-	-

### Extramural studies

Type of educational work	Hours	Semesters			
		4	-	-	-
<b>Classroom lessons (total)</b>	72	72	-	-	-
Including:	-	-	-	-	-
<i>Lectures</i>	-	-	-	-	-
<i>Practical classes (PC)</i>	-	-	-	-	-
<i>Seminars (S)</i>	-	-	-	-	-
<i>Laboratory work (LW)</i>	5	5	-	-	-
<b>Self-study work (total)</b>	64	64	-	-	-
<b>Control</b>	3	3	-	-	-
Total labor intensity hour	72	72	-	-	-
credit	2	2	-	-	-

## 5. Content of the discipline

### 5.1. Contents of discipline sections

№	The name of the discipline section	Section content (topics)
1.	General clinical diagnosis.	- Introduction. - Biogeocenotic diagnostics.
2.	Private clinical diagnostics. Cardiovascular and respiratory systems.	- The cardiovascular system. - Respiratory system.
3.	Private clinical diagnostics. Organ systems.	- The digestive system. - Urinary system. - Nervous system. - Fundamentals of Clinical Biochemistry. - Endocrine system.

### 5.2 Sections of discipline and types of classes

#### Full-time education

№ п/п	The name of the discipline section	Lecture	PC	LW	Seminar	SWS	Control	Total hours
1.	General clinical diagnosis.	6	-	12	-	2	3	23
2.	Private clinical diagnostics. Cardiovascular and respiratory systems.	6	-	12	-	2	3	23
3.	Private clinical diagnostics. Organ systems.	6	-	12	-	4	4	26

### Part-time education

№ п/п	The name of the discipline section	Lecture	PC	LW	Seminar	SWS	Control	Total hours
1.	General clinical diagnosis.	-	-	6	-	13	6	25
2.	Private clinical diagnostics. Cardiovascular and respiratory systems.	-	-	6	-	13	6	25
3.	Private clinical diagnostics. Organ systems.	-	-	6	-	12	4	22

### Extramural education

№ п/п	The name of the discipline section	Lecture	PC	LW	Seminar	SWS	Control	Total hours
1.	General clinical diagnosis.	-	-	2	-	20	1	23
2.	Private clinical diagnostics. Cardiovascular and respiratory systems.	-	-	1	-	20	1	22
3.	Private clinical diagnostics. Organ systems.	-	-	2	-	24	1	27

## 6. Laboratory workshop

### Full-time education

№ п/п	№ Discipline section	Name of laboratory work	Labor intensity (hour.)
1.	1	Introduction.	4
2.		Biogeocenotic diagnostics.	4
3.	2	The cardiovascular system.	4
4.		Respiratory system.	4
5.	3	Digestive system.	4
6.		Urinary system.	4
7.		Nervous system.	4
8.		Fundamentals of Clinical Biochemistry.	4
9.		Endocrine system.	4

### Part-time education

№ п/п	№ Discipline section	Name of laboratory work	Labor intensity (hour.)
1.	1	Introduction.	2
2.		Biogeocenotic diagnostics.	2

3.	2	The cardiovascular system.	2
4.		Respiratory system.	2
5.	3	Digestive system.	2
6.		Urinary system.	2
7.		Nervous system.	2
8.		Fundamentals of Clinical Biochemistry.	2
9.		Endocrine system.	2

### Extramural education

№ п/п	№ Discipline section	Name of laboratory work	Labor intensity (hour.)
1.	1	Introduction.	1
2.		Biogeocenotic diagnostics.	
3.	2	The cardiovascular system.	1
4.		Respiratory system.	
5.	3	Digestive system.	3
6.		Urinary system.	
7.		Nervous system.	
8.		Fundamentals of Clinical Biochemistry.	
9.		Endocrine system.	

### 7. Practical exercises (seminars)

Not provided.

### 8. Material and technical support of the discipline

- Personal Computer.
- Multimedia equipment.
- Portable ultrasound machine.
- Endoscopic equipment.
- Biochemical analyzer of blood, urine and hematological blood analyzer (ILAB 650, PCE 90VET, etc.).
- Hemometers GS (Sali).
- Goryaev's counting chamber.
- Electrocardiograph.
- Biological microscopes.
- Devices for determining the erythrocyte sedimentation rate: Panchenkov's capillaries.
- Registration capsule (set)
- Counter of blood corpuscles.
- Korotkov tonometer for measuring blood pressure
- Phonendoscope.
- Mixers (melangers) for counting leukocytes, erythrocytes
- A device for determining the Rh factor, blood groups

### 9. Information support of the discipline

#### a) Software:

- Windows 7 Enterprise
- Microsoft Office.
- Adobe Acrobat.

**b) Databases, information reference and search systems:**

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. <https://www.ncbi.nlm.nih.gov/pubmed>
7. <http://www.uchvuz.ru>
8. <http://www.veterinarka.ru>
9. <https://www.medlit.biz>
10. <http://effect3.ru>
11. <https://cyberleninka.ru/>

**10. Educational and methodological support of the discipline**

**a) main literature:**

1. Ivanov A.A. Clinical laboratory diagnostics [Electronic resource]: Textbook / A.A. Ivanov. - SPb. : Publishing house "Lan", 2017. - 432 p. [http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn\\_FindDoc&id=465014&idb=0](http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn_FindDoc&id=465014&idb=0)
2. Usha Boris Veniaminovich. Clinical diagnostics of internal non-communicable animal diseases / B.V. Usha, I.M. Belyakov, R.P. Pushkarev. - Electronic text data. - St. Petersburg: Quadro, 2020. -- 487 p. : [http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn\\_FindDoc&id=487452&idb=0](http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn_FindDoc&id=487452&idb=0)
3. Clinical diagnostics in veterinary medicine 2020.-161c <https://e.lanbook.com/book/148538>

**b) additional literature:**

1. Kalyuzhny I.I., Shcherbakov G.G. Clinical gastroenterology of animals / Yashin A.V., Barinov N.D., Derezhina T.N. - M. : Lan, 2015 - 448p. <https://e.lanbook.com/book/61362>
2. Korobov A.V., Savinkov A.V., Vorobiev A.V., Savinkova M.V. Glossary of veterinary terms for clinical diagnosis and internal non-communicable diseases. - 1st ed. ed. - SPb. : Lan, 2007. -- 320 p.
3. Clinical diagnosis of internal non-communicable diseases of animals / Usha BV, Belyakov IM, Pushkarev RP-M, 2004.- 835 p.
4. Kamyshnikov, V. S. Pocket reference book of a doctor in laboratory diagnostics / V.S. Kamyshnikov. - M. : MEDpress-inform, 2014. -- 400 p.
5. Medvedeva, M. Clinical veterinary laboratory diagnostics. Reference book for veterinarians / M. Medvedeva. - M. : Aquarium-Print, 2013. -- 416 p.
6. Annikova L.V. CLINICAL DIAGNOSTICS. - Saratov: FGBOU VO Saratov GAU, 2016. -- 114 p.

**11. Methodical instructions for students on mastering the discipline (module)**

1. Methodical instructions "Rules of work and compliance with safety measures in the study of animals. Scheme and methods of clinical research "in the specialty" Veterinary medicine ". Methodical instructions for students. - RUDN, 2015 .-- 28p. - in co-authorship.

## **12. Fund of assessment tools for intermediate certification of students in the discipline (module)**

Materials for assessing the level of mastering the educational material of the discipline "Clinical Diagnostics" (evaluation materials), including a list of competencies indicating the stages of their formation, a description of indicators and criteria for assessing competencies at various stages of their formation, a description of the assessment scales, standard control tasks or other materials , necessary for the assessment of knowledge, abilities, skills and (or) experience of activities that characterize the stages of the formation of competencies in the process of mastering the educational program, methodological materials that determine the procedures for assessing knowledge, skills, skills and (or) experience of activities that characterize the stages of formation of competencies in full and are available for students on the discipline page at TUIS RUDN.

The program is compiled in accordance with the requirements of the ES HE RUDN.

### **Developers:**

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