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**Federal State Autonomous Educational Institution of Higher Education  
PEOPLES' FRIENDSHIP UNIVERSITY OF RUSSIA  
RUDN University**

**Agrarian and Technological Institute**

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educational division (faculty/institute/academy) as higher education programme developer

**COURSE SYLLABUS**

**Parasitology and invasive diseases**

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course title

**Recommended by the Didactic Council for the Education Field of:**

**36.05.01 Veterinary**

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field of studies / speciality code and title

**The course instruction is implemented within the professional education programme of higher education:**

**36.05.01 Veterinary**

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higher education programme profile/specialisation title

## 1. GOALS AND OBJECTIVES OF THE COURSE

The aim of studying the course "**Parasitology and invasive diseases**" is to provide students with theoretical and practical knowledge on issues related to parasitic diseases of animals (helminthiasis, protozoa, arachnoses and entomoses) necessary for the formation of comprehensively trained veterinarians.

## 2. REQUIREMENTS FOR LEARNING OUTCOMES

The implementation of the course "**Parasitology and invasive diseases**" is aimed at creating the following competencies (parts of competencies) for students:

*Table 2.1. List of competencies formed by students during the development of the course (results of the development of the course)*

Competence code	Competence descriptor	Competence formation indicators (within this course)
PC-3	Ability to plan measures for differential diagnosis of diseases in a patient.	PC-3.1 Systematizes information about a patient's symptoms/syndromes, forms a set of preliminary diagnoses for further confirmation or refutation.
		PC-3.2 Uses a ready-made or creates a unique algorithm for differential diagnosis, taking into account the capabilities of the treatment facility.
		PC-3.3 Uses the information obtained as a result of diagnostic measures to make a final diagnosis(s) and to correct the diagnoses if necessary.
PC-6	Ability to diagnose and predict the course and spread of disease based on clinical, laboratory, and instrumental diagnostic data, as well as additional diagnostic methods.	PC-6.1 Knows the peculiarities of the manifestation of infectious, parasitic, internal non-contagious, surgical, gynecological and other diseases of animals of different species.
		PC-6.2 Knows how to make a complex diagnosis, taking into account the results of anamnesis, clinical, laboratory and instrumental studies.
		PC-6.3 Knows how to predict the course and result of treatment of the main disease based on the complex of concomitant diagnoses and factors that complicate the patient's condition.

		PC-6.4 Has knowledge of methodologies for assessing the risks of spread of an identified disease.
PC-12	Ability to organize and conduct dispensaries in animals, both general and specialized.	PC-12.1 Able to make a plan for the dispensary of animals, general or specialized, taking into account their species and purpose
		PC-12.2 Able to organize and conduct medical examinations according to the plan
		PC-12.3 Able, on the basis of the results of the dispensary, to make recommendations for therapeutic and preventive measures aimed at improving the health of the animal group

### 3. COURSE IN HIGHER EDUCATION PROGRAMME STRUCTURE

The course "**Parasitology and invasive diseases**" refers to the mandatory part of block B1 of the Educational Program of Higher Education.

As part of the Educational Program of Higher Education, students also master other courses and /or practices that contribute to achieving the planned results of mastering the course "**Parasitology and invasive diseases**".

*Table 3.1. List of Higher Education Program components courses that contribute to expected learning outcomes*

Competence code	Competence descriptor	Previous courses/modules, internships*	Subsequent courses/modules, internships*
PC-3	Ability to plan measures for differential diagnosis of diseases in a patient.	Obstetrics, gynecology and andrology Internal diseases General surgery Private Veterinary Surgery	Anesthesiology, resuscitation and intensive care Dermatology Cardiology Endocrinology Nephrology Reconstructive surgery Veterinary ophthalmology Animal Dentistry Clinical internship Industrial practice Academic research

			practice with the preparation of a scientific qualification project Preparation for and passing the state exam
PC-6	Ability to diagnose and predict the course and spread of disease based on clinical, laboratory, and instrumental diagnostic data, as well as additional diagnostic methods.	Pathological anatomy Obstetrics, gynecology and andrology Internal diseases General surgery Private Veterinary Surgery	Epizootology and infectious diseases Clinical internship Industrial practice Academic research practice with the preparation of a scientific qualification project Preparation for and passing the state exam
PC-12	Ability to organize and conduct dispensaries in animals, both general and specialized.	Obstetrics, gynecology and andrology Internal diseases General surgery Private Veterinary Surgery	Clinical internship Industrial practice Academic research practice with the preparation of a scientific qualification project Preparation for and passing the state exam

#### 4. COURSE WORKLOAD AND TRAINING ACTIVITIES

Course workload of the course "**Parasitology and invasive diseases**" is 8 credits.

*Table 4.1. Types of academic activities during the period of the HE program mastering for full-time study*

Types of academic activities		HOURS	Semesters				
			7	8	-	-	
Contact academic hours		122	68	54	-	-	
including							
Lectures		52	34	18	-	-	
Lab work		50	34	36	-	-	
Seminars (workshops/tutorials)		-	-	-	-	-	
Self-study		130	56	74	-	-	
Evaluation and assessment (exam/pass/fail grading)		36	20	16	-	-	
<b>Course workload</b>		Academic hour	<b>288</b>	<b>144</b>	<b>144</b>	-	-
		Credit unit	<b>8</b>	<b>4</b>	<b>4</b>	-	-

## 5. COURSE CONTENTS

*Table 5.1 Content of the course (module) by type of academic work*

<b>Modules</b>	<b>Content of the modules (topics)</b>	<b>Types of academic activities</b>
Module 1. Introduction to veterinary parasitology.	Topic 1.1. The course is a system of knowledge about veterinary parasitology.	Lectures, Lab work.
	Topic 1.2. A brief history of the development of parasitology. The role of Russian scientists in the development of parasitology.	Lectures, Lab work.
	Topic 1.3. Safety precautions when working with animals suspected of being infected with invasive diseases.	Lectures, Lab work.
	Topic 1.4. Economic damage caused by invasive diseases.	Lectures, Lab work.
Module 2. Veterinary protozoology.	Topic 2.1. Pathogenesis and clinical signs of piroplasmidoses of animals.	Lectures, Lab work.
	Topic 2.2. Methods of diagnosis of protozoa.	Lectures, Lab work.
	Topic 2.3. Toxoplasmosis of animals and humans. Features of the course, diagnosis, treatment and prevention.	Lectures, Lab work.
Module 3. Veterinary entomology.	Topic 3.1. Diagnosis and treatment of entomoses.	Lectures, Lab work.
	Topic 3.2. Insecticides and repellents.	Lectures, Lab work.
	Topic 3.3. Measures to combat entomoses.	Lectures, Lab work.
Module 4. Veterinary acarology.	Topic 4.1. Parasitiform mites – ectoparasites and carriers of pathogens.	Lectures, Lab work.
	Topic 4.2. Measures to combat ixodic ticks.	Lectures, Lab work.
	Topic 4.3. Diagnosis and treatment of acaroses.	Lectures, Lab work.
	Topic 4.4. Acaricides and repellents.	Lectures, Lab work.
Module 5. Veterinary helminthology.	Topic 5.1. Basic methods of diagnosis of helminthiasis. Helmintholaryscopy, helminthoscopy, helminthoscopy.	Lectures, Lab work.

	Topic 5.2. Features of the morphology of suckers.	Lectures, Lab work.
	Topic 5.3. Methods of diagnosis of trematodoses.	Lectures, Lab work.
	Topic 5.4. Basics of prevention and treatment of trematodoses.	Lectures, Lab work.
	Topic 5.5. Larval stages of cestodes (cysticercus, cenurus, cysticercoid, echinococcus, alveococcus, strobilocercus tetratidium).	Lectures, Lab work.
	Topic 5.6. Larval teniidoses.	Lectures, Lab work.
	Topic 5.7. Imaginal teniidoses.	Lectures, Lab work.
	Topic 5.8. Diagnosis of imaginal cestodoses.	Lectures, Lab work.
	Topic 5.9. Basic methods of diagnosis of nematodes. Trichinelloscopy.	Lectures, Lab work.
	Topic 5.10. The study of the helminthological situation at livestock facilities.	Lectures, Lab work.

## 6. COURSE EQUIPMENT AND TECHNOLOGY SUPPORT REQUIREMENTS

Table 6.1. Material and technical support of the course

<i>Classroom for Academic Activity Type</i>	<i>Equipping the classroom</i>	<b>Specialized educational/laboratory equipment, software and materials for the development of the course (if necessary)</b>
Lecture	An auditorium for conducting lecture-type classes, equipped with a set of specialized furniture; a board (screen) and technical means of multimedia presentations.	<ul style="list-style-type: none"> <li>- <i>Information stands.</i></li> <li>- <i>Wet preparations.</i></li> <li>- <i>Micro-preparations.</i></li> <li>- <i>Biological microscopes.</i></li> </ul>
Laboratory	An auditorium for laboratory work, individual consultations, routine monitoring and interim certification, equipped with a set of specialized furniture and equipment.	<ul style="list-style-type: none"> <li>- <i>Information stands.</i></li> <li>- <i>Wet preparations.</i></li> <li>- <i>Micro-preparations.</i></li> <li>- <i>Biological microscopes.</i></li> </ul>

Self-studies	An auditorium for independent work of students (can be used for seminars and consultations), equipped with a set of specialized furniture and computers with access to an electronic information and educational environment.	-
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## 7. RESOURCES RECOMMENDED FOR COURSE STUDIES

### *Main readings:*

1. Karpenko L.P. Veterinary parasitology [Text/electronic resource] : Educational and methodical manual / L.P. Karpenko, N.V. Yashina. - Electronic text data. - M. : RUDN Publishing House, 2013. - 81 p. - ISBN 978-5-209-05276-0 : 71.62.  
[http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn\\_FindDoc&id=409610&idb=0](http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn_FindDoc&id=409610&idb=0)
2. Parasitology and invasive diseases of animals : textbook for universities: in 2 volumes / D. G. Latypov, A. H. Volkov, R. R. Timerbaeva, E. G. Kirillov. — St. Petersburg : Lan, [B. G.]. — Volume 1 — 2021. — 548 p. — ISBN 978-5-8114-5786-1. — Text : electronic // Lan : electronic library system. — URL: <https://e.lanbook.com/book/159484>
3. Parasitology and invasive diseases of animals : textbook for universities: in 2 volumes / D. G. Latypov, A. H. Volkov, R. R. Timerbaeva, E. G. Kirillov. — Saint Petersburg : Lan, 2021 — Volume 2 — 2021. — 444 p. — ISBN 978-5-8114-5787-8. — Text : electronic // Lan : electronic library system.— URL: <https://e.lanbook.com/book/162360>

### *Additional Readings:*

1. Invasive diseases transmitted to humans through meat and fish, veterinary and sanitary assessment of slaughter products [Electronic resource] : Textbook / L.V. Reznichenko [et al.]. - St. Petersburg : Publishing House "Lan", 2016. - 80 p. - (Textbooks for universities. Special literature). - ISBN 978-5-8114-2258-6.  
[http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn\\_FindDoc&id=465053&idb=0](http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn_FindDoc&id=465053&idb=0)
2. Lutfullin M.H. Veterinary helminthology [Electronic resource] : Textbook / M.H. Lutfullin, D.G. Latypov, M.D. Kornishina. - 2nd ed., erased. - St. Petersburg : Publishing House "Lan", 2018. - 304 p. - (Textbooks for universities. Special literature). - ISBN 978-5-8114-1092-7.  
[http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn\\_FindDoc&id=464873&idb=0](http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn_FindDoc&id=464873&idb=0)
3. Bespalova N.S. Cestodology for veterinarians [Electronic resource] : Textbook / N.S. Bespalova, S.N. Koroleva. - St. Petersburg : Publishing House "Lan", 2017. - 216 p. - (Textbooks for universities. Special literature). - ISBN 978-5-8114-2662-1.  
[http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn\\_FindDoc&id=464914&idb=0](http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn_FindDoc&id=464914&idb=0)
4. Latypov D.G. Protozoal diseases of animals dangerous to humans (protozoal zoonoses) [Electronic resource] : Textbook / D.G. Latypov, R.R. Timerbaeva, E.G. Kirillov. - St. Petersburg : Publishing House "Lan", 2017. - 208 p. - (Textbooks for universities. Special literature). - ISBN 978-5-8114-2631-7.  
[http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn\\_FindDoc&id=464930&idb=0](http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn_FindDoc&id=464930&idb=0)
5. Latypov D.G. Helminthiasis of animals dangerous to humans [Electronic resource] : Textbook / D.G. Latypov. - 3rd ed., reprint. - St. Petersburg : Publishing House "Lan", 2017. - 440 p. - (Textbooks for universities. Special literature). - ISBN 978-5-8114-2626-3. [http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn\\_FindDoc&id=464941&idb=0](http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn_FindDoc&id=464941&idb=0)
6. Lieberman E.L. Anaplasmosis of farm animals [Electronic resource] : Textbook / E.L. Lieberman, S.A. Kozlov. - St. Petersburg : Publishing House "Lan", 2017. - 84 p. -

- (Textbooks for universities. Special literature). - ISBN 978-5-8114-2472-6.  
[http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn\\_FindDoc&id=465003&idb=0](http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn_FindDoc&id=465003&idb=0)
7. Bespalova N.S. Acarology for veterinarians [Electronic resource] : Textbook / N.S. Bespalova, E.O. Vozgorkova. - St. Petersburg : Publishing House "Lan", 2017. - 208 p. - (Textbooks for universities. Special literature). - ISBN 978-5-8114-2397-2.  
[http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn\\_FindDoc&id=464998&idb=0](http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn_FindDoc&id=464998&idb=0)

#### *Internet sources*

1. Electronic libraries (EL) of RUDN University and other institutions, to which university students have access on the basis of concluded agreements:

- RUDN Electronic Library System (RUDN ELS)  
<http://lib.rudn.ru/MegaPro/Web>

- EL "University Library Online" <http://www.biblioclub.ru>
- EL "Yurayt" <http://www.biblio-online.ru>
- EL "Student Consultant" [www.studentlibrary.ru](http://www.studentlibrary.ru)
- EL "Lan" <http://e.lanbook.com/>
- EL "Trinity Bridge"

#### *2. Databases and search engines:*

- electronic foundation of legal and normative-technical documentation  
<http://docs.cntd.ru/>
- Yandex search engine [https:// www .yandex.ru/](https://www.yandex.ru/)
- Google search engine <https://www.google.ru/>
- Scopus abstract database <http://www.elsevierscience.ru/products/scopus/>

Educational and methodological materials for independent work of students during the development of the course/ module\*:

1. A course of lectures on the course "**Parasitology and invasive diseases**".
2. Laboratory workshop on the course "**Parasitology and invasive diseases**".

\* - The training toolkit and guidelines for the internship are placed on the internship page in the university telecommunication training and information system under the set procedure.

## **8. ASSESSMENT TOOLKIT AND GRADING SYSTEM\* FOR EVALUATION OF STUDENTS' COMPETENCES LEVEL AS COURSE RESULTS**

The assessment toolkit and the grading system\* to evaluate the level of competences (competences in part) formation as the course results are specified in the Appendix to the course syllabus.

\* The assessment toolkit and the grading system are formed on the basis of the requirements of the relevant local normative act of RUDN University (regulations / order).

### **DEVELOPER:**

Associate Professor of the Department of Veterinary  
Medicine

Position, Basic curriculum

Dinchenko O.I.

Signature

Full name.

### **HEAD OF EDUCATIONAL DEPARTMENT:**



Department of Veterinary Medicine

Name Basic Curriculum

Signature

Vatnikov Yu.A.

Full name.

**HEAD OF**

**HIGHER EDUCATION PROGRAMME:**

Director of the Department of Veterinary Medicine

Position, Basic curriculum

Signature

Vatnikov Yu.A.

Full name