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

Agrarian and Technological Institute

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

COURSE SYLLABUS

Parasitology and Invasive Diseases

course title

Recommended by the Didactic Council for the Education Field of:

36.05.01 Veterinary

field of studies / speciality code and title

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

Veterinary

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 activities for the differential diagnosis of diseases in a patient.	PC-3.1 Systematizes information about symptoms/syndromes, forms a set of preliminary diagnoses for confirmation or exclusion.
		PC-3.2 Uses an existing or develops a unique algorithm for differential diagnosis considering the capabilities of the medical institution.
		PC-3.3 Uses the results of diagnostic activities to establish the final diagnosis (diagnoses) and to adjust diagnoses if necessary.
PC-6	Ability to establish a diagnosis and predict the course and spread of a disease based on clinical, laboratory, instrumental, and additional diagnostic methods.	PC-6.1 Possesses knowledge of the manifestations of infectious, parasitic, internal non-contagious, surgical, gynecological, and other diseases in different animal species.
		PC-6.2 Possesses methods for establishing a comprehensive diagnosis based on anamnesis, clinical, laboratory, and instrumental studies.
		PC-6.3 Possesses methods for predicting the course and outcome of the treatment of the main disease based on accompanying diagnoses and complicating factors.

		PC-6.4 Possesses methods for assessing the risk of disease spread.
PC-12	Ability to organize and conduct general and specialized veterinary health monitoring of animals.	PC-12.1 Able to develop a plan for general or specialized animal health monitoring, considering their species and purpose.
		PC-12.2 Able to organize and conduct animal health monitoring according to the developed plan.
		PC-12.3 Able to provide recommendations for therapeutic and preventive measures based on the results of health monitoring.

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 activities for the differential diagnosis of diseases in a patient.	Obstetrics, Gynecology and Andrology / Акушерство, гинекология и андрология Internal Diseases / Внутренние незаразные болезни General Surgery / Общая хирургия Private Surgery / Частная	Dermatology / Дерматология Cardiology / Кардиология Endocrinology / Эндокринология Oncology / Онкология Neurology / Неврология Nephrology / Нефрология Anesthesiology, Resuscitation And Intensive Therapy / Анестезиология, реанимация и

		<p>ветеринарная хирургия</p>	<p>интенсивная терапия Reconstructive Surgery / Реконструктивно- восстановительная хирургия Veterinary Ophthalmology / Ветеринарная офтальмология Behavioral Medicine / Поведенческая медицина Animal Dentistry / Стоматология животных Variable component / Вариативная компонента Clinical Industrial Practice / Клиническая производственная практика Clinical Internship Industrial Research Practice / Производственно- исследовательская практика Preparation for Passing and Passing the State Exam / Подготовка к сдаче и сдача государственного экзамена Preparing and Passing the State Exam / Подготовка и сдача государственного экзамена Design, Preparation for Defense Procedure and Defense of the Graduation Thesis / Оформление, подготовка к процедуре защиты и защита выпускной квалификационной</p>
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			работы
PC-6	Ability to establish a diagnosis and predict the course and spread of a disease based on clinical, laboratory, instrumental, and additional diagnostic methods.	Pathological Anatomy / Патологическая анатомия Obstetrics, Gynecology and Andrology / Акушерство, гинекология и андрология Internal Diseases / Внутренние незаразные болезни General Surgery / Общая хирургия Private Surgery / Частная ветеринарная хирургия	Epidemiology and Infectious Diseases / Эпизоотология и инфекционные болезни Variable component / Вариативная компонента Clinical Industrial Practice / Клиническая производственная практика Clinical Internship Industrial Research Practice / Производственно-исследовательская практика Preparation for Passing and Passing the State Exam / Подготовка к сдаче и сдача государственного экзамена Preparing and Passing the State Exam / Подготовка и сдача государственного экзамена Design, Preparation for Defense Procedure and Defense of the Graduation Thesis / Оформление, подготовка к процедуре защиты и защита выпускной квалификационной работы

PC-12	Ability to organize and conduct general and specialized veterinary health monitoring of animals.	Obstetrics, Gynecology and Andrology / Акушерство, гинекология и андрология Internal Diseases / Внутренние незаразные болезни Private Surgery / Частная ветеринарная хирургия	Variable component / Вариативная компонента Clinical Industrial Practice / Клиническая производственная практика Clinical Internship Industrial Research Practice / Производственно-исследовательская практика Preparation for Passing and Passing the State Exam / Подготовка к сдаче и сдача государственного экзамена Preparing and Passing the State Exam / Подготовка и сдача государственного экзамена Design, Preparation for Defense Procedure and Defense of the Graduation Thesis / Оформление, подготовка к процедуре защиты и защита выпускной квалификационной работы
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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	119	68	51	-	-
including					
Lectures	51	34	17	-	-
Lab work	68	34	34	-	-
Seminars (workshops/tutorials)	-	-	-	-	-
Self-study	131	56	75	-	-
Evaluation and assessment (exam/pass/fail)	38	20	18	-	-

grading)						
Course workload	Academic hour	288	144	144	-	-
	Credit unit	8	4	4	-	-

5. COURSE CONTENTS

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

Modules	Content of the modules (topics)	Types of academic activities
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	Lectures, Lab

	repellents.	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>	Specialized educational/laboratory equipment, software and materials for the development of the course (if necessary)
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"> - <i>Information stands.</i> - <i>Wet preparations.</i> - <i>Micro-preparations.</i> - <i>Biological microscopes.</i>
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"> - <i>Information stands.</i> - <i>Wet preparations.</i> - <i>Micro-preparations.</i> - <i>Biological microscopes.</i>

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
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
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
3. Bepalova N.S. Cestodology for veterinarians [Electronic resource] : Textbook / N.S. Bepalova, 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
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
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
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
7. Bepalova N.S. Acarology for veterinarians [Electronic resource] : Textbook / N.S. Bepalova, 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

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
- 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:

Professor of the Department of Veterinary Medicine

Position, Basic curriculum

Shemyakova S.A.

Signature

Full name.

HEAD OF EDUCATIONAL DEPARTMENT:

Department of Veterinary Medicine

Name Basic Curriculum

Vatnikov Yu.A.

Signature

Full name.

**HEAD OF
HIGHER EDUCATION PROGRAMME:**
Director of the Department of Veterinary Medicine

Position, Basic curriculum

Signature

Vatnikov Yu.A.

Full name