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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

Pathologic Physiology

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 mastering the course "**Pathologic Physiology**" is to master the basics of the laws of the development of pathological processes; concepts about the essence of life, health, disease; to study typical pathological processes: inflammation, tumors, fever, hypoxia, starvation, etc.; to reveal the issues of pathological physiology of organs and systems.

2. REQUIREMENTS FOR LEARNING OUTCOMES

The implementation of the course "**Pathologic Physiology**" 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	Indicators of competence accomplishment (within the course)
GPC-1	Able to determine the biological status and normative clinical parameters of the organs and systems of animal organisms.	GPC-1.2 Able to predict disturbances in biological status when suspecting the development of diseases.
GPC-6	Able to analyze, identify, and assess the risk of occurrence and spread of diseases.	GPC-6.1 Possesses knowledge in the field of etiology and pathogenesis of diseases in different species of animals.

3. COURSE IN HIGHER EDUCATION PROGRAMME STRUCTURE

The course "**Pathologic Physiology**" 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 "**Pathologic Physiology**".

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*
GPC-1	Able to determine the biological status and normative clinical parameters of the organs and systems of animal organisms.	-	Base component / Базовая компонента Educational Practice / Учебная практика Variable component / Вариативная компонента

			<p>Clinical Practice / Клиническая производственная практика</p> <p>Clinical Internship / Industrial Research Practice / Производственно-исследовательская практика</p> <p>Preparation for Passing and Passing the State Exam / Подготовка к сдаче и сдача государственного экзамена</p> <p>Preparing and Passing the State Exam / Подготовка и сдача государственного экзамена</p> <p>Design, Preparation for Defense Procedure and Defense of the Graduation Thesis / Оформление, подготовка к процедуре защиты и защита выпускной квалификационной работы</p>
GPC-6	Able to analyze, identify, and assess the risk of occurrence and spread of diseases.	Animal Health and Welfare / Здоровье и благополучие животных	<p>Epidemiology and Infectious Diseases / Эпизоотология и инфекционные болезни</p> <p>Variable component / Вариативная компонента</p> <p>Veterinary Genetics / Ветеринарная генетика</p>

			<p>Здоровье и благополучие животных / Animal Health and Welfare</p> <p>Variable component / Вариативная компонента</p> <p>Clinical Industrial Practice / Клиническая производственная практика</p> <p>Clinical Internship</p> <p>Industrial Research Practice / Производственно-исследовательская практика</p> <p>Preparation for Passing and Passing the State Exam / Подготовка к сдаче и сдача государственного экзамена</p> <p>Preparing and Passing the State Exam / Подготовка и сдача государственного экзамена</p> <p>Design, Preparation for Defense Procedure and Defense of the Graduation Thesis / Оформление, подготовка к процедуре защиты и защита выпускной квалификационной работы</p>
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4. COURSE WORKLOAD AND TRAINING ACTIVITIES

Course workload of the course "**Pathologic Physiology**" is 9 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			
			4	5	-	-
Contact academic hours		136	68	68	-	-
including						
Lectures		34	17	17	-	-
Lab work		102	51	51	-	-
Seminars (workshops/tutorials)		-	-	-	-	-
Self-study		161	103	58	-	-
Evaluation and assessment (exam/pass/fail grading)		27	9	18	-	-
Course workload	Academic hour	324	180	144	-	-
	Credit unit	9	5	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. General pathological physiology	Topic 1. Pathological physiology as a fundamental science and academic course.	Lectures, Lab work.
	Topic 1.1 General nosology.	Lectures, Lab work.
	Topic 1.2 General etiology.	Lectures, Lab work.
	Topic 1.3 General pathogenesis.	Lectures, Lab work.
	Topic 1.4 The effect of pathogenic environmental factors.	Lectures, Lab work.
	Topic 1.5 Urgent conditions.	Lectures, Lab work.
	Topic 1.6 Reactivity and resistance of the body.	Lectures, Lab work.
	Topic 1.7 Disorders of local blood and lymph circulation.	Lectures, Lab work.
	Topic 1.8 Inflammation.	Lectures, Lab work.
	Topic 1.9 Disorders of thermoregulation of the body.	Lectures, Lab work.

	Fevers.	
	Topic 1.10 Pathological physiology of metabolic and energy disorders.	Lectures, Lab work.
	Topic 1.11 Tumor growth.	Lectures, Lab work.
Module 2. Private pathological physiology.	Topic 2. Blood pathophysiology.	Lectures, Lab work.
	Topic 2.1 Pathophysiology of the cardiovascular system.	Lectures, Lab work.
	Topic 2.2 Pathophysiology of the respiratory system.	Lectures, Lab work.
	Topic 2.3 Pathophysiology of the excretory system (kidneys).	Lectures, Lab work.
	Topic 2.4 Pathophysiology of digestion.	Lectures, Lab work.
	Topic 2.5 Pathophysiology of the liver, pancreas.	Lectures, Lab work.
	Topic 2.6 Pathophysiology of the endocrine system.	Lectures, Lab work.
	Topic 2.7 Pathophysiology of the immune system.	Lectures, Lab work.
	Topic 2.8 Pathophysiology of the nervous system.	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 anatomical preparations.</i> - <i>Micro-preparations.</i> - <i>Biological microscopes.</i> - <i>Digital camera for the microscope.</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 anatomical preparations.</i> - <i>Micro-preparations.</i> - <i>Biological microscopes.</i> - <i>Digital camera for the microscope.</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. Pathological physiology and pathological anatomy of animals [Electronic resource] : Textbook / A.V. Zharov [et al.]; Edited by A.V. Zharov. - 4th ed., revised. - St. Petersburg : Publishing House "Lan", 2018. - 416 p. - (Textbooks for universities. Special literature). - ISBN 978-5-8114-1534-2. http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn_FindDoc&id=464906&idb=0
2. Baymatov V.N. Workshop on pathological physiology + CD [Electronic resource] : Textbook / V.N. Baymatov. - 2nd ed., revised. - St. Petersburg : Publishing House "Lan", 2017. - 352 p. - (Textbooks for universities. Special literature). - ISBN 978-5-8114-1443-7. http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn_FindDoc&id=464947&idb=0

Additional Readings:

1. Savinkov, A.V. Pathological physiology: textbook / A.V. Savinkov, V.M. Meshkov. — Samara : SamGAU, 2018. — 188 p. — ISBN 978-5-88575-519-1. — Text : electronic // Electronic library system "Lan" : [website]. — URL: <https://e.lanbook.com/book/111866>
2. Bogdanov, A.V., Golubenko Yu.V., Pathological physiology and pathological anatomy of animals. - St. Petersburg: Lan, 2014. - 416 p.
3. Lyutinsky S.I. Pathological physiology of animals. - 2nd ed. - St. Petersburg: KolosS, 2013. - 496 p.
4. Vasiliev, Yu.G. Tests on pathological physiology: an educational and methodological manual / Yu.G. Vasiliev, E.I. Troshin, D.S. Berestov. — Saint Petersburg : Lan, 2015. — 400 p. — ISBN 978-5-8114-1810-7. — Text : electronic // Electronic library system "Lan" : [website]. — URL: <https://e.lanbook.com/book/58163>

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 "**Pathologic Physiology**".
2. Laboratory workshop on the course "**Pathologic Physiology**".

* - 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

Подпись

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Full name.

Associate Professor of the Department of Veterinary
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Position, Basic curriculum

Signature

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HEAD OF EDUCATIONAL DEPARTMENT:

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