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

Epidemiology and Infectious 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

2025

1. GOALS AND OBJECTIVES OF THE COURSE

The aim of the mastering the course "**Epidemiology and Infectious Diseases**" is to master students with theoretical knowledge and practical skills in the field of general and private epizootology and infectology, providing identification of the causes and conditions of the occurrence and spread of infectious diseases, justification and organization of antiepizootic and preventive measures aimed at their prevention, reduction of infectious diseases of animals and elimination of individual infections.

22. REQUIREMENTS FOR LEARNING OUTCOMES

The implementation of the course "**Epidemiology and Infectious 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 discipline)

Competence code	**Competence descriptor**	**Indicators of competence accomplishment** (within the discipline)
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 various animal species.
		GPC-6.2 Knows the patterns of disease emergence and spread in animal populations, the predisposing factors, and the causes of possible complications.
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 various 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 treatment outcome of the main disease based on accompanying diagnoses and factors complicating the patient's condition.
		PC-6.4 Possesses methods for assessing the risks of disease spread.
PC-11	Ability to develop an annual plan of anti-epizootic measures, a plan for the	PC-11.1 Able to conduct an epizootiological survey of the organization and its territory.

	prevention of non-contagious animal diseases, a plan of veterinary and sanitary measures, including vaccination and therapeutic-preventive treatment plans.	PC-11.2 Able to develop an annual plan for anti-epizootic and antiparasitic measures, a plan for the prevention of non-contagious animal diseases, and a veterinary and sanitary measures plan.
		PC-11.3 Able to prepare individual and group vaccination (immunization) plans, considering the epizootiological situation at the location, the anti-epizootic plan, and national and regional veterinary and sanitary regulations and requirements.

3. COURSE IN HIGHER EDUCATION PROGRAMME STRUCTURE

The course "**Epidemiology and Infectious 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 disciplines and /or practices that contribute to achieving the planned results of mastering the course "**Epidemiology and Infectious Diseases**".

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

Competence code	**Competence descriptor**	**Previous courses/modules, internships***	**Subsequent courses/modules, internships***
GPC-6	Able to analyze, identify, and assess the risk of occurrence and spread of diseases.	Base component / Базовая компонента Animal Health and Welfare / Здоровье и благополучие животных Pathologic Physiology / Патологическая физиология	Variable component / Вариативная компонента Veterinary Genetics / Ветеринарная генетика Здоровье и благополучие животных / Animal Health and Welfare 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-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	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

		ветеринарная хирургия Parasitology and Invasive Diseases / Паразитология и инвазионные болезни	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-11	Ability to develop an annual plan of anti-epizootic measures, a plan for the prevention of non-contagious animal diseases, a plan of veterinary and sanitary measures, including vaccination and therapeutic-preventive treatment plans.		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

4. COURSE WORKLOAD AND TRAINING ACTIVITIES

Course workload of the course "**Epidemiology and Infectious Diseases**" is 10 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**	**9**	**-**
Contact academic hours		153	51	51	51	-
Including						
Lectures		51	17	17	17	-
Lab work		102	34	34	34	-
Seminars (workshops/tutorials)		-	-	-	-	-
Self-study		150	37	38	75	-
Evaluation and assessment (exam/pass/fail grading)		57	20	19	18	-
Course workload	Academic hour	**360**	**108**	**108**	**144**	**-**
	Credit unit	**10**	**3**	**3**	**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 epizootology. Introduction to epizootology and infectology.	Topic 1.1. Introduction to veterinary infectology.	Lectures, Lab work.
	Topic 1.2. General principles of the approach to working with animals in case of suspected infectious disease.	Lectures, Lab work.
	Topic 1.3. Logistics and equipment.	Lectures, Lab work.
	Topic 1.4. Epizootological examination of the object.	Lectures, Lab work.
	Topic 1.5. Rules for the collection of pathological material.	Lectures, Lab work.
Module 2. The concept of the epizootic process.	Topic 2.1. Epizootic chain.	Lectures, Lab work.

	Topic 2.2. The driving forces of the epizootic process.	Lectures, Lab work.
	Topic 2.3. Sources of the pathogen.	Lectures, Lab work.
	Topic 2.4. Mechanisms of pathogen transmission.	Lectures, Lab work.
Module 3. Infection and immunity.	Topic 3.1. The doctrine of infection. Infectious process.	Lectures, Lab work.
	Topic 3.2. The importance of a microorganism in the development of infection and its pathogenicity. Forms of infection.	Lectures, Lab work.
	Topic 3.3. The immune system of the animal body.	Lectures, Lab work.
	Topic 3.4. Anti-infectious immunity.	Lectures, Lab work.
Module 4. Diagnosis of infectious diseases.	Topic 4.1. Epizootological diagnostics of infectious diseases.	Lectures, Lab work.
	Topic 4.2. Clinical diagnosis of infectious diseases.	Lectures, Lab work.
	Topic 4.3. Pathomorphological diagnostics of infectious diseases.	Lectures, Lab work.
	Topic 4.4. Allergic diagnostics of infectious diseases.	Lectures, Lab work.
	Topic 4.5. Laboratory diagnostics of infectious diseases.	Lectures, Lab work.
	Topic 4.6. Serological diagnostics of infectious diseases	Lectures, Lab work.
	Topic 4.7. Virological diagnostics of infectious diseases.	Lectures, Lab work.
Module 5. Antiepizootic and preventive measures.	Topic 5.1. Principles of antiepizootic work.	Lectures, Lab work.
	Topic 5.2. Veterinary and sanitary rules for the prevention and control of infectious diseases of animals.	Lectures, Lab work.
	Topic 5.3 General prevention.	Lectures, Lab work.
	Topic 5.4. Specific prevention.	Lectures, Lab work.
	Topic 5.5. Principles of treatment of infectious diseases of animals.	Lectures, Lab work.
Module 6. Private epizootology.	Topic 6.1. Classification of infectious diseases.	Lectures, Lab work.

Classification of infectious diseases.	Topic 6.2. Natural focal infections.	Lectures, Lab work.
Module 7. Especially dangerous infectious diseases of animals.	Topic 7.1. Diseases common to animals of different species.	Lectures, Lab work.
	Topic 7.2. Animal diseases in the city.	Lectures, Lab work.
	Topic 7.3. Anthropozoonoses.	Lectures, Lab work.
Module 8. Infectious diseases of ruminants.	Topic 8.1. Infectious diseases of cattle.	Lectures, Lab work.
	Topic 8.2. Infectious diseases of small cattle.	Lectures, Lab work.
	Topic 8.3. Infectious diseases of camels.	Lectures, Lab work.
Module 9. Infectious diseases of horses.	Topic 9.1. Infectious diseases of horses.	Lectures, Lab work.
Module 10. Infectious diseases of pigs.	Topic 10.1. Infectious diseases of pigs.	Lectures, Lab work.
Module 11. Infectious diseases of young animals.	Topic 11.1. Infectious diseases of young ruminants.	Lectures, Lab work.
	Topic 11.2. Infectious diseases of young horses.	Lectures, Lab work.
	Topic 11.3. Infectious diseases of young pigs.	Lectures, Lab work.
	Topic 11.4. Infectious diseases of young unproductive animals.	Lectures, Lab work.
Module 12. Infectious diseases of birds.	Topic 12.1. Infectious diseases of birds.	Lectures, Lab work.
Module 13. Infectious diseases of carnivores.	Topic 13.1. Infectious diseases of dogs.	Lectures, Lab work.
	Topic 13.2. Infectious diseases of cats.	Lectures, Lab work.
	Topic 13.3. Infectious diseases of fur-bearing animals.	Lectures, Lab work.
Module 14. Infectious diseases of fish.	Topic 14.1. Infectious diseases of fish.	Lectures, Lab work.
Module 15. Infectious diseases of bees.	Topic 15.1. Infectious diseases of bees.	Lectures, Lab work.
Module 16. Slow animal infections.	Topic 16.1. Infectious diseases of animals caused by prions.	Lectures, Lab work.
Module 17. Infectious diseases of animals caused by rickettsia and chlamydia.	Topic 17.1. Infectious diseases of animals caused by rickettsias	Lectures, Lab work.
	Topic 17.2. Infectious diseases of animals caused by chlamydia.	Lectures, Lab work.

6. COURSE EQUIPMENT AND TECHNOLOGY SUPPORT REQUIREMENTS

Table 6.1. Material and technical support of the discipline

Classroom for Academic Activity Type	***Equipping the classroom***	**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.	-
Laboratory	An auditorium for laboratory work, individual consultations, routine monitoring and interim certification, equipped with a set of specialized furniture and equipment.	-
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.	-

7. RESOURCES RECOMMENDED FOR COURSE STUDIES

Main readings:

1. Fundamentals of infectious diagnostics: textbook / V. V. Makarov, D.A. Lozovoy, V. I. Belousov, A. K. Petrov. - Vladimir: FGBI "VNIIZH", 2019. -137 p.: ill. - ISBN 978-5-900026-71-8.
2. Epizootology with microbiology: textbook / Edited by V. A. Kuzmin, A.V. Svyatkovsky. - 2nd ed., stereotype. - St. Petersburg: Lan, 2017. - 430 p.: ill. - (Textbooks for universities. Special literature). - ISBN 987-5-8114-2017-9: 1760.00.http://lib.rudn.ru/MegaPro/Web
3. Makarov, Vladimir Vladimirovich. Epizootological research method: textbook for universities / V. V. Makarov, A.V. Svyatkovsky; V.V.Makarov et al. - Electronic text data. - St. Petersburg: Lan, 2009. - 224 p.: ill. - (Textbooks for universities. Special literature). - ISBN 978-5-8114-0903-7: 269.94. http://lib.rudn.ru/MegaPro/Web

Additional Readings:

1. Gruzdev K.N. Rabies of animals: monograph / K.N. Gruzdev, A.E. Metlin. - Vladimir: FGBI "VNIIZH", 2019. - 393 p.: ill. - ISBN 978-5-900026-73-2:.

2. Timofeev Boris Alexandrovich. Trypanosomiasis of animals: a textbook / B. A. Timofeev, V. G. Menshikov. - M.: Zoomedlit, 2009. - 118 p. -(Textbooks and manuals for students of higher education. studies. establishments). - ISBN 978-5-91233-005-9.
3. Makarov, Vladimir Vladimirovich. The OIE list of animal diseases and cross-border infections: a textbook for a lecture course on the course "Epizootology and infectious diseases" / V. V. Makarov. - M.: Publishing House of RUDN, 2009. - 140 p.: ill. - Appendix: CD.http://lib.rudn.ru/MegaPro/Web

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/
- 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 discipline/ module*:

1. A course of lectures on the course "**Epidemiology and Infectious Diseases**".
2. Laboratory workshop on the course "**Epidemiology and Infectious 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:

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