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**Federal State Autonomous Educational Institution for Higher Education PEOPLES'  
FRIENDSHIP UNIVERSITY OF RUSSIA  
Agrarian and Technological Institute**

## **WORKING COURSE SYLLABUS**

### **Operative surgery with topographic anatomy**

**Recommended by the Methodological Council for the Education Field:**

**36.05.01 Veterinary medicine**

## 1. GOALS AND OBJECTIVES OF THE DISCIPLINE

The aim of mastering the discipline "**Operative surgery with topographic anatomy**" is to give future veterinarians theoretical knowledge, practical skills and skills in the technology of organizing and conducting surgical operations; theoretical knowledge, practical skills in choosing the optimal methods of surgical intervention and ways to prevent complications.

## 2. REQUIREMENTS FOR THE RESULTS OF MASTERING THE DISCIPLINE

The development of the discipline "**Operative surgery with topographic anatomy**" 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 discipline (results of the development of the discipline)*

<b>Code</b>	<b>Competence</b>	<b>Indicators of competence accomplishment (within the discipline)</b>
UK -3	The ability to organize and manage the work of the team, developing a team strategy to achieve the goal.	UK-3.1 Defines his role in the team based on the strategy of cooperation to achieve the goal;
		UK-3.2 Formulates and takes into account in its activities the peculiarities of the behavior of groups of people, identified depending on the goal;
		UK-3.3 Analyzes the possible consequences of personal actions and plans his actions to achieve the desired result;
		UK-3.4 Exchanges information, knowledge and experience with team members;
		UK -3.5 Argues his point of view regarding the use of the ideas of other team members to achieve the goal;
		UK -3.6 Participates in team work on the execution of assignments.
GPC -4	The ability to use methods of solving problems using modern equipment in the development of new technologies in professional activity and to use modern professional methodology for conducting experimental research and	GPC-4.1 Possesses the conceptual and methodological apparatus of basic natural sciences at a level sufficient for full-fledged professional activity at the modern level.
		GPC-4.2 He knows the methods of solving problems using modern equipment.

	interpreting their results.	GPC-4.3 He is ready to use modern methodology in the development and conduct of experimental research.
		GPC-4.4 Uses modern professional methodology in interpreting research results.
GPC -5	The ability to draw up special documentation, analyze the results of professional activity and submit accounting documents using specialized databases.	GPC-5.1 Has the skills to search for the necessary forms of documentation on official websites and in specialized databases.
		GPC-5.2 Possesses professional terminology and skills in filling out analytical and reporting documents of a professional orientation.
		GPC-5.3 He is able to use specialized software to analyze the results of professional activity and compile accounting documentation.
PC -11	Ability to develop a surgical operation plan, including the choice of analgesia method	PC-11.1 Able to develop a surgical operation plan;
		PC-11.2 He is able to choose and justify the optimal variant of anesthesia of the patient during surgery and in the postoperative period.
PC -12	The ability to perform surgical intervention in the body of animals in the treatment of various diseases, castration, sterilization, for cosmetic purposes.	PC-12.1 He is able to prepare the premises, equipment and consumables necessary for surgical intervention, taking into account the requirements of asepsis and antiseptics.
		PC-12.2 He is able to prepare the operating team for surgical intervention, taking into account the requirements of asepsis and antiseptics.
		PC-12.3 He is able to prepare the patient for surgical intervention, taking into account the requirements of asepsis and antiseptics.
		PC-12.4 He is able to assist the operating surgeon during surgical interventions.
		PC-12.5 He is capable of carrying out preventive and economic operations (including castration, dehydration, etc.) in farm animals and companion animals.
		PC-12.6 He is capable of independently performing diagnostic and therapeutic operations in animals of different species, taking into account the species, age and

	individual characteristics of patients.
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### 3. COURSE IN HIGHER EDUCATION

The discipline "**Operative surgery with topographic anatomy**" 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 discipline "**Operative surgery with topographic anatomy**".

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

Competence code	Competence	Previous Disciplines (Modules)	Subsequent Disciplines (Modules)
UK-3	Defines his role in the team based on the strategy of cooperation to achieve the goal;	Jurisprudence Life safety	Parasitology and invasive diseases Epizootology and infectious diseases Organization of veterinary business Mathematics Fundamentals of rhetoric and communication Introduction to the specialty Fundamentals of Economics and Management Veterinary sanitation Veterinary deontology Fundamentals of intellectual work Personality psychology and professional self-determination Fundamentals of social and legal knowledge
GPC -4	Possesses the conceptual and methodological apparatus of basic natural sciences at a level sufficient for full-fledged professional activity at the modern	Inorganic and analytical chemistry Organic Chemistry Biological physics Computer science Physical and colloidal chemistry Cytology, histology	Instrumental diagnostic methods Toxicology Obstetrics, gynecology and andrology Internal non-infectious diseases General surgery

	level.	and embryology Biological chemistry Veterinary microbiology and mycology Virology and biotechnology Physiology and ethology of animals Breeding with the basics of private animal husbandry Pathological physiology Veterinary Radiobiology Clinical diagnosis Pathological anatomy	Private Veterinary surgery Parasitology and invasive diseases Epizootology and infectious diseases Mathematics Immunology Veterinary sanitation Medicinal and poisonous plants Forage plants Fundamentals of intellectual work Personality psychology and professional self-determination Clinical laboratory diagnostics Laboratory diagnostics of infectious and invasive diseases Diseases of horses Diseases of productive animals Diseases of small pets Diseases of small pets Bee diseases and entomophages Fish pathology and aquaculture Diseases of exotic animals Anesthesiology, intensive care and intensive care Dermatology Cardiology Endocrinology Nephrology Reconstructive and reconstructive surgery Veterinary Ophthalmology Animal Dentistry
GPC -5	The ability to draw up special documentation, analyze the results of	Veterinary genetics Computer science Breeding with the	Instrumental diagnostic methods Obstetrics, gynecology

	<p>professional activity and submit accounting documents using specialized databases.</p>	<p>basics of private animal husbandry Clinical diagnosis Pathological anatomy</p>	<p>and andrology Internal non-infectious diseases Parasitology and invasive diseases Epizootology and infectious diseases Veterinary and sanitary examination Organization of veterinary business Forensic veterinary examination and autopsy of animals Veterinary deontology Economics and organization of agricultural production Clinical laboratory diagnostics Laboratory diagnostics of infectious and invasive diseases Organization of state veterinary supervision Veterinary and industrial laboratories with the basics of design Anesthesiology, intensive care and intensive care Dermatology Cardiology Endocrinology Nephrology</p>
PC -11	<p>Ability to develop a surgical operation plan, including the choice of analgesia method.</p>	<p>Animal anatomy Veterinary microbiology and mycology Physiology and ethology of animals Pathological physiology Veterinary Pharmacology Pathological anatomy</p>	<p>Obstetrics, gynecology and andrology General surgery Private Veterinary surgery Anesthesiology, intensive care and intensive care Dermatology Cardiology Endocrinology Nephrology</p>

			Reconstructive and reconstructive surgery
PC -12	The ability to perform surgical intervention in the body of animals in the treatment of various diseases, castration, sterilization, for cosmetic purposes.	Pathological anatomy	Obstetrics, gynecology and andrology Reconstructive and reconstructive surgery

#### 4. COURSE WORKLOAD AND TRAINING ACTIVITIES

Course workload of the discipline "**Operative surgery with topographic anatomy**" is 4 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				
			6	-	-	-	
Contact academic hours		72	72	-	-	-	
including							
Lectures		18	18	-	-	-	
Lab work		54	54	-	-	-	
Seminars (workshops/tutorials)		-	-	-	-	-	
Self-study		62	62	-	-	-	
Evaluation and assessment (exam/pass/fail grading)		10	10	-	-	-	
<b>Course workload</b>		Academic hour	<b>144</b>	<b>144</b>	-	-	-
		Credit unit	<b>4</b>	<b>4</b>	-	-	-

*Table 4.2. Types of academic activities during the period of the HE program mastering for **part-time** study*

Types of academic activities		HOURS	Semesters			
			7	-	-	-
Contact academic hours		36	36	-	-	-

including						
Lectures		18	18	-	-	-
Lab work		18	18	-	-	-
Seminars (workshops/tutorials)		-	-	-	-	-
Self-study		88	88	-	-	-
Evaluation and assessment (exam/pass/fail grading)		20	20	-	-	-
<b>Course workload</b>	Academic hour	<b>144</b>	<b>144</b>	-	-	-
	Credit unit	<b>4</b>	<b>4</b>	-	-	-

## 5. CONTENT OF THE DISCIPLINE

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

<b>Name of the discipline section</b>	<b>Content of the section (topics)</b>	<b>Types of academic activities</b>
Section 1. General concepts and methods of operative surgery.	Topic 1.1 General concepts of operative surgery, (surgical clinic, surgical manipulations, surgical operation).	Lectures, Lab work.
	Topic 1.2 Fixation of animals, anesthesia, local anesthesia.	Lectures, Lab work.
	Topic 1.3 Surgical instruments.	Lectures, Lab work.
	Topic 1.4 Methods of asepsis and antiseptics in operative surgery.	Lectures, Lab work.
	Topic 1.5. Separation of tissues. Bleeding, types, methods of stopping.	Lectures, Lab work.
	Topic 1.6. General principles of surgical suture application.	Lectures, Lab work.
	Topic 1.7. Desmurgy.	Lectures, Lab work.
Section 2. Methods and features of surgical operations.	Topic 2.1. Operational access.	Lectures, Lab work.
	Topic 2.2. Operational techniques, types, methods, features.	Lectures, Lab work.
	Topic 2.3. Features of oncological operations. Principles of ablasy.	Lectures, Lab work.
	Topic 2.4. Connection of soft tissues. The final stage of the operation.	Lectures, Lab work.
	Topic 2.5. The connection of dense fabrics. Osteosynthesis.	Lectures, Lab work.

## 6. CLASSROOM INFRASTRUCTURE AND TECHNOLOGY SUPPORT REQUIREMENTS

Table 6.1. Material and technical support of the discipline

<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 discipline (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.	<i>surgical instruments</i>
Laboratory	An auditorium for laboratory work, individual consultations, routine monitoring and interim certification, equipped with a set of specialized furniture and equipment.	<i>surgical instruments</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.	-

## 7. RECOMMENDED SOURCES FOR COURSE STUDIES

### *Main reading:*

1. Shakurov M.S. Fundamentals of general veterinary surgery [Electronic resource] : Textbook / M.S. Shakurov. - 2nd ed., erased. - St. Petersburg : Publishing House "Lan", 2016. - 252 p. [http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn\\_FindDoc&id=465067&idb=0](http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn_FindDoc&id=465067&idb=0)
2. Petrakov K.A. Salenko P.T. Paninsky S.M. Operative surgery with animal anatomy. -2nd ed. - Moscow: KolosS, 2013. - 453 p.
3. Semenov B. S., Videnin V. N., Nechaev A. Yu., Kuznetsova T. S., Guseva V. A. Operative surgery in animals 2021.-704 p. <https://e.lanbook.com/book/162365>

### *Additional Reading:*

1. Videnin V.N. Surgical treatment of abdominal wall defects in animals [Electronic resource] : Textbook / V.N. Videnin, B.S. Semenov. - St. Petersburg : Publishing house "Lan", 2015. - 224 p. [http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn\\_FindDoc&id=465109&idb=0](http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn_FindDoc&id=465109&idb=0)
2. Local anesthesia and methods of novocaine therapy of animals [Electronic resource] : Educational and methodical manual / A.F. Sapozhnikov [et al.]. - St. Petersburg : Publishing House "Lan", 2011. - 176 p. [http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn\\_FindDoc&id=465268&idb=0](http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn_FindDoc&id=465268&idb=0)
3. Semenov B.S. Practicum on operative surgery with the basics of topographic anatomy of domestic animals [Electronic resource] / B.S. Semenov, V.A. Ermolaev, S.V. Timofeev. - M. : KolosS, 2013. - 263 p. [http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn\\_FindDoc&id=475874&idb=0](http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn_FindDoc&id=475874&idb=0)

*Resources of the Internet information and telecommunication network:*

1. Electronic library system of RUDN and third-party Electronic library systems to which university students have access on the basis of concluded contracts:
  - Electronic library system of RUDN - ELS RUDN <http://lib.rudn.ru/MegaPro/Web>
  - ELS "University Library online" <http://www.biblioclub.ru>
  - ELS Yurayt <http://www.biblio-online.ru>
  - ELS "Student Consultant" [www.studentlibrary.ru](http://www.studentlibrary.ru)
  - ELS "Lan" <http://eZlanbook.com/>
  - ELS "Trinity Bridge" <http://www.trmost.com/>
2. Databases and search engines:
  - electronic fund of legal and regulatory and technical documentation <http://docs.cntd.ru/>
  - search engine Yandex <https://www.yandex.ru/>
  - search engine Google <https://www.google.ru/>
  - abstract database SCOPUS <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 discipline "**Operative surgery with topographic anatomy**".
2. Laboratory workshop on the discipline "**Operative surgery with topographic anatomy**".

\* - All educational and methodological materials for independent work of students are placed in accordance with the current procedure on the discipline page in the **Telecommunication educational and Information System!**

## **8. MID-TERM ASSESSMENT**

Evaluation materials and a point-rating system\* for assessing the level of competence formation (part of competencies) based on the results of mastering the discipline "**Operative surgery with topographic anatomy**" are presented in the Appendix to this Work Program of the discipline.

\* - Assessment Materials and a Point Rating System are formed based on the requirements of the relevant local regulatory act of the RUDN.

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