FEDERAL STATE BUDGETARY
EDUCATIONAL INSTITUTION OF HIGHER EDUCATION
"AMUR STATE MEDICAL ACADEMY"
OF THE MINISTRY OF HEALTH OF THE RUSSIAN FEDERATION

AGREED
Vice-Rector for Academic Affairs,

_____N.V. Loskutova

April 17, 2025

Decision of the CCMC
April 17, 2025
Protocol No. 7

APPROVED
by the decision of the Academic Council of the Federal State Budgetary Educational Institution of Higher Education
Amur State Medical Academy of the Ministry of Health of the Russian Federation
April 22, 2025

Protocol No. 15

Acting Rector of the Federal State Budgetary Educational Institution of Higher Education
Amur State Medical Academy
Ministry of Health of the Russian Federation

_____ I.V. Zhukovets

April 22, 2025

ДОКУМЕНТ ПОДПИСАН
ЭЛЕКТРОННОЙ ПОДПИСЬЮ

Сертификат: 50AB2242604E64520B52614FA420034A
Владелец: Жуковец Ирина Валентиновна
Действителен: с 15.04.2025 до 09.07.2026

EDUCATIONAL PROGRAM
discipline "Topographic Anatomy and Operative Surgery"

Specialty: 31.05.01 General Medicine
Course: 2, 3
Semester: 4, 5
Total hours: 180 hours
Total credits: 5 credit units
Control Form: examination, 5 semester

Blagoveshchensk, 2025

The educational program of the discipline is designed in accordance with the requirements of the Federal State Educational Standard of Higher Education - specialist in specialty 31.05.01 General Medicine, approved by the order of the Ministry of Education and Science of Russia dated 08.12.2020 No. 988 (registered with the Ministry of Justice of Russia on 08.26.2020 No. 59493), BPEP HE (2021).

Authors:

Professor at the Department of Anatomy and Operative Surgery, Holder of an Advanced Doctorate (Doctor of Sciences) in Medical Sciences V.V. Grebenyuk
Professor at the Department of Anatomy and Operative Surgery, Holder of an Advanced Doctorate (Doctor of Sciences) in Medical Sciences G.N. Marushchenko

Reviewers:

Head of the Department of Pathological Anatomy with a Course in Forensic Medicine, Professor, Holder of an Advanced Doctorate (Doctor of Sciences) in Medical Sciences I.Yu. Makarov
Head of the State Budgetary Healthcare Institution of the Amur Region "Amur Bureau of Forensic Medical Examination" of the Ministry of Health of the Amur Region, Honored Doctor of the Russian Federation A.N. Bokin

APPROVED at the meeting of the Department of Anatomy and Operative Surgery,

Protocol No. 12 dated April 8, 2025

Head of Department, Ph.D. of Medical Sciences, Associate Professor _____ Yu.A. Shakalo

Conclusion of the Expert Commission for Review of Educational Programs: protocol No. 3 dated April 9, 2025

Expert of the Expert Commission
Head of Department, Ph.D. of Medical Sciences, Associate Professor _____ Yu.A.Shakalo

APPROVED at the meeting of the CMC No. 2: protocol No. 7 dated April 10, 2025

Chairman of the CMC No. 2
Holder of an Advanced Doctorate (Doctor of Sciences) in Biological Sciences,
Associate Professor _____ I.Yu. Sayapina

AGREED: Dean of the Faculty of Medicine,
Ph.D. of Medical Sciences _____ N.G. Brush

April 17, 2025

CONTENT

I. EXPLANATORY NOTE

1.1. Characteristics of the discipline

Topographic anatomy and operative surgery is a dual discipline that occupies an important place in the system of training a general practitioner at the intersection of theoretical and clinical disciplines and is taught in accordance with the federal state educational standard of higher education for 1 year.

For a more in-depth study of the main medical discipline of human anatomy in the age aspect as applied to practical medicine.

The teaching of this course is based on the presentation of topographical data on the structure of the human body as applied to clinical needs, particularly surgery. It must meet the requirements of modern medical science and provide students with the information necessary to acquire the knowledge and skills in operative surgery and topographical anatomy necessary for further training and professional practice as a general practitioner.

Operative surgery examines the basic concepts of surgical techniques and the acquisition of practical skills and knowledge (competencies) of the main surgical procedures provided for by the Federal State Educational Standard.

The practical skills exam is an integral part of the overall examination assessment for the discipline.

Topographic anatomy and operative surgery are taught in medical schools through lectures and practical classes, with credits for the core modules and a final exam. With the transition to a multi-tiered medical education system, the quality of teaching is particularly important. Teaching is integrated with the programs of related departments, with a significant role given to students' self-study and the acquisition of professional competencies. This includes the ability to correctly interpret surgical tactics for various operations and procedures.

1.2. The purpose and objectives of the discipline.

The purpose of teaching the discipline- to provide students with information to acquire knowledge and practical skills in topographic anatomy and operative surgery to the extent necessary for further education and professional activity in medicine (practical healthcare)

Tasks of the work program:

1. Formation of professional competencies, a set of knowledge, skills and abilities that a student must master as a result of studying topographic anatomy and operative surgery;
2. Forma complete and coherent understanding of topographic anatomy and operative surgery in the context of the practical activities of doctors of any specialty;
3. To instill skills in performing basic surgical interventions on human organs and tissues;
4. Master the basic surgical techniques for various treatment and diagnostic procedures (pleural puncture, venous catheterization, joint puncture, venesection, craniotomy and stopping external bleeding).
5. Explain modern concepts of high-tech surgical interventions (endoscopy, virtual research);
6. Determine the forms and methods of monitoring the level of mastery of educational material and the level of competencies acquired by students.

1.3. The place of the discipline in the structure of the main professional educational program of higher education.

In accordance with the Federal State Educational Standard of Higher Education, the specialist program in specialty 31.05.01 General Medicine, the discipline "Topographic Anatomy and Operative Surgery" is

related to the disciplines of the basic part, Block 1. The total workload is 5 credits (180 hours), taught in the 4th and 5th semesters in the 2nd and 3rd years. Form of control -exam in the 5th semester.

Students are taught based on the continuity of knowledge and skills acquired as a result of studying the Anatomy course in semesters 1, 2 and 3.

DisciplineTopographic Anatomy and Operative Surgeryis a subject necessary for the study of specialized disciplines that are taught in parallel with this subject or in subsequent courses.

Main sections of the discipline studied

1. Introduction.
2. Topographic anatomy and operative surgery of the extremities
3. Topographic anatomy and operative surgery of the head
4. Topographic anatomy and surgical surgery of the neck
5. Topographic anatomy and surgical surgery of the breast
6. Topographic anatomy and operative surgery of the abdomen:
- anterior lateral abdominal wall;
- abdominal cavity;
- lumbar region and retroperitoneal space;
7. Topographic anatomy and operative surgery of the pelvis and perineum;
8. Topographic anatomy and operative surgery of the spine.

1.4 Requirements for students

To study the course "Topographic Anatomy and Operative Surgery", a student must possess the necessary knowledge, skills and abilities developed in secondary (complete) general education institutions:

Physics
Knowledge: the basic physical properties of biologically important inorganic and organic substances in various states of aggregation.
Skills**:** predict changes in the energy state of substances during chemical interactions and the properties of aqueous solutions.
Skills:work withmathematical apparatus and computer technology for calculating physical quantities that characterize the behavior of substances.
Chemistry
Knowledge: the basic laws of chemical reactions, the properties of the main classes of inorganic and organic substances, the structure of molecules and the nature of chemical bonds.
Skills**:**to predict the possibilities and results of chemical interactions between substances in tissues.
Skills: work on computer equipment to calculate the quantitative results of chemical reactions and the quantitative composition of solutions.
Biology
Knowledge: chemical nature of biological processes, the most important substances involved in the structure and activity of a living organism.
Skills**:**traces the connection between biological and chemical processes occurring in nature and living organisms.
Skills: work on computers to search for necessary information about the biological role of substances.

1.5. Interdisciplinary links with subsequent disciplines

No. p/p	**Name of subsequent disciplines**	**Section numbers of this discipline, necessary for studying subsequent disciplines**							
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
1.	Pathological anatomy, clinical pathological anatomy	+	+	+	+	+	+	+	+
2.	Pathophysiology, clinical	+	+	+	+	+	+	+	+

	pathophysiology								
3.	Propaedeutics of internal diseases	+	+	+	+	+	+	+	+
4.	General surgery	+	+	+	+	+	+	+	+
5.	Dentistry	+		+	+				
6.	Neurology, neurosurgery	+	+	+	+	+	+	+	+
7.	Obstetrics and gynecology	+				+	+	+	
8.	Pediatrics	+	+	+	+	+	+	+	+
9.	Faculty surgery, urology	+	+	+	+	+	+	+	+
10.	Faculty therapy	+	+	+	+	+	+	+	+
11.	Otorhinolaryngology	+		+	+				
12.	Ophthalmology	+		+					
13.	Infectious diseases	+	+	+	+	+	+	+	+
14.	Hospital surgery, pediatric surgery	+	+	+	+	+	+	+	+
15.	Traumatology, orthopedics	+	+	+	+	+	+	+	+
16.	Forensic medicine	+	+	+	+	+	+	+	+
17.	Oncology, radiation therapy	+	+	+	+	+	+	+	+

1.6 Requirements for the results of mastering the discipline

The process of studying the discipline is aimed at developing the following competencies:

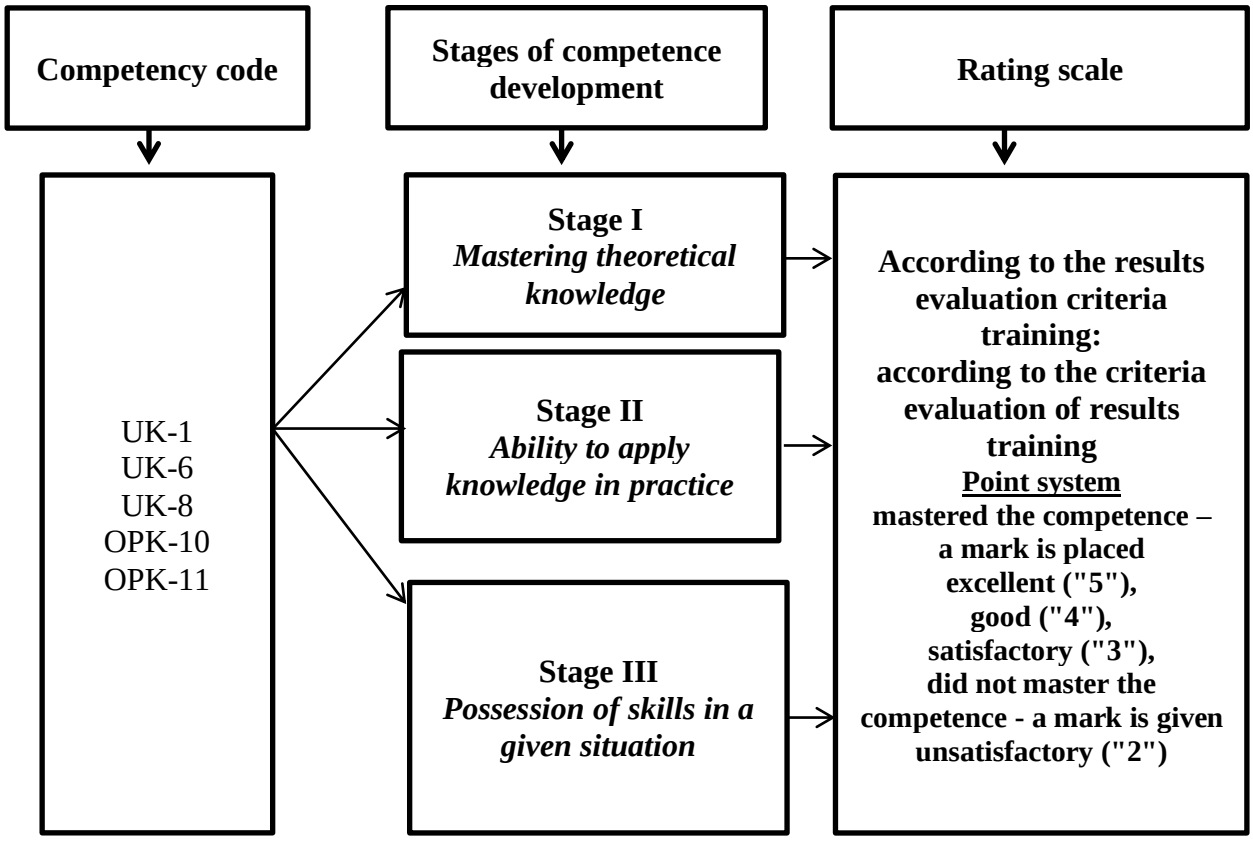
No. p/p	Code and name of competence	Code and name of the competency achievement indicator
Universal competencies		
1	**UK-1**Capable of carrying out a critical analysis of problematic situations based on a systems approach and developing an action strategy	**ID UK-1.1.**Analyzes a problem situation based on a systems approach. **ID UK-1.2.**Develops and argues a strategy for solving problematic situations based on a systemic and interdisciplinary approach.
2	**UK-6**Able to identify and implement priorities for one's own activities and ways to improve them based on self-assessment and lifelong learning	**ID UK-6.1.**Assesses his personal, situational, and time resources and uses them optimally to complete the assigned task. **ID UK-6.3.**Conducts critical self-analysis of the results of one's own activities.
3	**UK-8**Able to create and maintain in everyday life safe living conditions in life and professional activities to preserve the natural environment, ensure sustainable development of society, including in the event of a threat or occurrence of emergency situations and military conflicts	**ID UK-8.4.**Possesses the skills to create and maintain safe living conditions to preserve the natural environment and ensure sustainable development of society, including in the event of threats and emergencies and military conflicts.
General professional competencies		
4	**OPK-10**Able to solve standard professional tasks using information and bibliographic resources, medical and biological terminology, and information and communication technologies, taking into account the basic requirements of information security.	**ID OPK-10.2.**Conducts effective searches for information necessary to solve professional problems, using information and bibliographic resources, medical and biological terminology, and information and communication technologies, taking into account the basic requirements of information security.
5	**OPK-11**Capable of preparing and applying	**ID OPK 11.3.**Interprets and applies data from scientific and scientific-industrial documentation to

	scientific, research and production, design, organizational, managerial and regulatory documentation in the healthcare system	solve professional problems. **ID OPK-11.4.**Conducts scientific and practical research, analyzes information and prepares publications based on research results.

Modules of the discipline and the code of the competence being developed

Item No.	Section name	Code of the competence being formed
1	Introduction	UK-1, UK-6, UK-8, OPK-10, OPK-11
2	Topographic anatomy and operative surgery of the extremities	UK-1, UK-6, UK-8, OPK-10, OPK-11
3	Topographic anatomy and operative surgery of the head	UK-1, UK-6, UK-8, OPK-10, OPK-11
4	Topographic anatomy and surgical procedures of the neck	UK-1, UK-6, UK-8, OPK-10, OPK-11
5	Topographic anatomy and operative breast surgery	UK-1, UK-6, UK-8, OPK-10, OPK-11
6	Topographic anatomy and operative surgery of the abdomen: - anterior lateral abdominal wall; - abdominal cavity; - lumbar region and retroperitoneal space;	UK-1, UK-6, UK-8, OPK-10, OPK-11
7	Topographic anatomy and operative surgery of the pelvis and perineum;	UK-1, UK-6, UK-8, OPK-10, OPK-11
8	Topographic anatomy and operative surgery of the spine.	UK-1, UK-6, UK-8, OPK-10, OPK-11

1.7Stages of competence development and assessment scale



1.8 Forms of organization of training and types of student control

Form of organization of student training	**Brief characteristic**
Lectures	The lecture material contains key and most problematic issues of the discipline, which are most significant in the training of a specialist.
Practical classes	They are intended for the analysis (reinforcement) of theoretical principles and monitoring their assimilation with subsequent application of the acquired knowledge during the study of the topic.
Working in a training operating room	Designed to acquire practical skills in the main areas of operative surgery
Interactive forms of education	- solving situational problems and exercises followed by discussion, - interactive survey; - completing creative tasks, - small group method, - discussions, - online course of the discipline in the Moodle system, - testing in the Moodle system. - Analysis of educational situations, brainstorming, discussions, thesis defense, presentation defense, computer simulations, small group methods, peer review of notes, and work on cadaveric material
Participation in the department's research work, student clubs and conferences	- preparation of oral presentations and poster presentations for presentation at a student club or scientific conference; - writing abstracts and theses on the chosen scientific field; - preparing a literature review usingeducational, scientific, reference literature and Internet sources.
Types of control	**Brief description**
Incoming inspection	Testing theoretical knowledge and practical skills developed by the computer science program in secondary (complete) general education institutions. The entrance knowledge assessment includes: - testing in the Moodle system (knowledge entry control test), - solving situational problems and exercises. The results of the incoming inspection are systematized, analyzed and used by the teaching staff of the department to develop measures to improve and update the teaching methods of the discipline.
Current control	Current knowledge control includes: - checking the solution of situational problems and exercises completed independently (extracurricular independent work); - assessment of the assimilation of theoretical material (oral survey andcomputer testing); - control over the technique of performing practical skills during practical classes and drawing up protocols; - testing in the Moodle system on all topics of the discipline (tests include questions of a theoretical and practical nature);

	- individual assignments (practical and theoretical) for each topic of the discipline being studied.
Final inspection	testing, interviews on situational tasks, defense of creative work, verification of acquisition of practical skills
Final control	100 tests on all sections of the studied subject
Intermediate certification	Midterm assessment is represented by an exam at the end of the 5th semester with an assessment at the end of the 5th semester. The exam includes the following stages: - assessment of knowledge of theoretical material (oral survey and interview); - testing in the systemMoodle (Midterm Assessment Test) (https://educ-amursma.ru/course/view.php?id=93) (final control 100 questions); - testing the acquisition of practical skills and abilities; - solving situational problems and exercises on each topic of the discipline studied.

II. STRUCTURE AND CONTENT OF THE DISCIPLINE

2.1 Scope of the discipline and types of academic work

Types of educational work	**Total hours**	**Semesters**	
		4	5
Lectures	28	18	10
Practical classes	68	34	34
Independent work of students	48	24	24
Exam	36	-	36
Total labor intensity in hours	180	76	104
Total workload in credit units	5	2	3

2.2. Thematic plan of lectures and their summary

Item No.	Lecture Topics	Codes of the formed competencies	Labor-bone (hours)
	IV-V semester		
1	INTRODUCTION TO THE DISCIPLINE History of the departments of operative surgery and topographic anatomy in Russia. The contributions of Russian scientists to the development of topographic anatomy and operative surgery as an independent discipline. Subject content, main areas of study in topographic anatomy. Concept of surgical anatomy.	UK-1; UK-6; UK-8 OPK-10; OPK-11	2
2	TOPOGRAPHIC ANATOMY AND OPERATIVE SURGERY OF THE EXTREMITIES. FASCIA AND CELLULAR SPACES OF THE EXTREMITIES Patterns of connective tissue structure in the extremities in applied applications (spread of purulent processes, case anesthesia, etc.). Morphofunctional characteristics of subcutaneous and interfascial tissue. Basic requirements and principles of surgical approaches for purulent processes. Contributions of Russian scientists to the development of purulent surgery principles.	UK-1; UK-6; UK-8 OPK-10; OPK-11	2
3	OPERATIVE SURGERY OF VASCULAR AND NERVES History of vascular surgery and nerve trunk surgery. Techniques of vascular suturing according to KORELL, SCHUMACHER-LOEVENBERG, BRIAND-JOBOULEY, mechanical vascular suturing. Indications for vascular suturing. Radiocontrast methods of vascular examination. Surgeries on the main arteries and aorta. Surgeries on peripheral nerves. Practical significance of these surgical interventions. Puncture and catheterization of the subclavian vein, possible errors and complications. Ballooning, endoscopic examination. Use of laser radiation in the treatment of vascular diseases.	UK-1; UK-6; UK-8 OPK-10; OPK-11	2
4	AMPUTATIONS AND EXARTICULATIONS. PRINCIPLES OF EXTRA- AND INTRAMEDULLARY OSTEOSYNTHESIS Topographic and anatomical justification for approaches to limb bones. Modern methods of extramedullary and intramedullary osteosynthesis. Issues in modern joint and limb prosthetics.	UK-1; UK-6; UK-8 OPK-10; OPK-11	2
5	TOPOGRAPHIC ANATOMY AND OPERATIVE SURGERY OF THE HEAD The theory of the cellular spaces of the head. Features of the topographic and anatomical distribution of arterial vessels and nerve trunks of the head. Modern topographic and anatomical classification of veins of the head (extra and intracranial, intraosseous and veins of the facial region of the head). The role of venous formations in the spread of acute inflammatory processes in the head. Topography of regional lymph nodes of	UK-1; UK-6; UK-8 OPK-10; OPK-11	2

	the head. Principles of primary surgical treatment of wounds of the soft tissues of the head, open fractures of the bones of the skull. The concept of osteoplastic and resection trepanation of the skull. Topographic and anatomical justification for blockade methods of the branches of the trigeminal nerve. (Particular attention should be paid to the fact that most traumatic brain injuries occur in a state of intoxication). On the tasks of healthcare workers in the fight against drunkenness, alcoholism, and drug addiction.		
6	TOPOGRAPHIC ANATOMY AND OPERATIVE SURGERY OF THE NECK ORGANS The concept of the muscular and visceral complexes of the neck. Cellular spaces of the neck. Superficial and deep venous formations. Projectional anatomy of large vascular formations (carotid arteries, jugular veins). Reflexogenic zones of the neck. Principles of choosing surgical approaches to neck organs during abscess drainage. Peculiarities of the relationship between the thyroid gland, parathyroid glands, and recurrent nerves. Topographic and anatomical rationale for vagosympathetic blockade according to A.V. VISHNEVSKY. Emergency surgical methods for treating asphyxia. Primary surgical treatment of penetrating and non-penetrating wounds of the neck.	UK-1; UK-6; UK-8 OPK-10; OPK-11	2
7	SURGICAL ANATOMY OF THE CHEST Topographic and clinical characteristics of the mammary gland structure. Lymphatic drainage pathways from the mammary gland. Topographic and anatomical classification of mastitis. Topographic and anatomical justification for surgical incisions on the mammary gland for mastitis. Cellular spaces of the chest wall and thoracic cavity. Projectional anatomy of the pleura and pleural sinuses. Surgical anatomy of the lung and its root elements. Modern views on the division of the lungs into lobes and segments, and the significance of these data in the diagnosis and surgical treatment of pathological processes. Using the example of inflammatory processes in the mammary gland, apply the law of the philosophy of the transition from quantity to quality, and categories—quantity, quality, and measure. Modern methods of breast examination—ultrasound, mammography, etc.	UK-1; UK-6; UK-8 OPK-10; OPK-11	2
8	CLINICAL AND TOPOGRAPHIC ANATOMY OF THE MEDISTINUM Division of the mediastinum into sections. Topographic anatomy of the mediastinal organs. Surgical anatomy of the esophagus. Topographic and anatomical segments of the esophagus. Features of the blood supply and innervation of the mediastinal organs. Reflexogenic zones. Current data on the regional lymph nodes of the thoracic cavity and lymphatic drainage pathways in light of their practical significance. Surgical approaches to the thoracic organs. Operative surgery of the lungs and bronchi. Heart surgery, the concept of artificial circulation. Surgery for ischemic heart disease. Modern classification of mediastinal divisions. Modern methods of coronary angiography and coronary artery bypass grafting.	UK-1; UK-6; UK-8 OPK-10; OPK-11	2
9	SURGICAL ANATOMY OF THE ANTERIOR ABDOMINAL WALL	UK-1; UK-6; UK-8	2

	Clinical boundaries and layered description of the anterolateral abdominal wall. Weaknesses. Topography of the inguinal and umbilical canals. Typical abdominal anatomy and its clinical significance. Features of blood supply, innervation, and lymph drainage from the anterolateral abdominal wall. Surgical approaches to abdominal organs and their topographic and anatomical justification. The concept of the abdominal press and its clinical significance. Using this material, demonstrate the dialectical unity of the categories "Form and Function" and "Form and Content" in morphology. Provide classic Calck points for laparoscopic minimally invasive surgery.	OPK-10; OPK-11	
10	THE CONCEPT OF HERNIAS Components of a hernia. The concepts of "hernia," "eventration," and "prolapse." Classification of hernias. General principles of treating abdominal hernias. Surgical treatment of inguinal, femoral, umbilical, and linea alba hernias. Inguinal canal repair using the methods of GIRARD, SPASOKUKOTSKY, MARTYNOV, RU-GERTZEN, BASSINI, and N.I. KUKUDZHANOV, and KIMBAROVSKY sutures. Surgical tactics for congenital hernias, including strangulated and sliding hernias.	UK-1; UK-6; UK-8 OPK-10; OPK-11	2
11	SURGICAL ANATOMY OF THE ABDOMINAL CAVITY. GENERAL PRINCIPLES OF SURGICAL OPERATIONS ON THE ORGANS OF THE GASTROINTESTINAL TRACT The concept of the abdominal cavity and the abdominal cavity. Division into layers. Anatomical and physiological features of the peritoneum. Bags, pockets, canals, pockets of the peritoneum, and their clinical significance. Features and basic principles of operations on abdominal organs. Intestinal sutures, their main characteristics, types, topographic and anatomical substantiation of intestinal sutures. Principles of intestinal sutures of A. LAMBER, N. PIROGOV, V. MATESHUK, SCHMIDEN, PRIBRAM. Mechanical intestinal sutures. The operating principle of NZhKa, PKS, and other devices. Closed abdominal injuries. Social harm of drunkenness and alcoholism. Laparoscopic minimally invasive techniques of abdominal surgery.	UK-1; UK-6; UK-8 OPK-10; OPK-11	2
12	SURGICAL ANATOMY OF THE STOMACH, LIVER, AND PANCREAS. MAIN OPERATIONS PERFORMED ON THESE ORGANS Development of modern surgery of the stomach, liver, and pancreas. History of the study. Surgical anatomy of these organs. Types of operations performed on the stomach. Gastrostomy according to KADER, WITZEL, TOPROVER. Gastroenteroanastomoses. Gastric resection according to BILROTH I, BILROTH II, HOFFMEISTER-FINSTERER. The concept of truncal and selective vagotomies with drainage operations on the stomach and duodenum. Methods of processing the stump of the duodenum. Basic operations on the gallbladder. Cholecystostomy, cholecystectomy and other endoscopic methods of cholecystectomy. Using the morphology and function of the pancreas as an example, give an example of the law of "Negation of the Negation" and "Unity and Struggle of Opposites".	UK-1; UK-6; UK-8 OPK-10; OPK-11	2

13	TOPOGRAPHIC AND CLINICAL ANATOMY OF THE LUMBAR REGION AND ORGANS OF THE RETROPERITONEAL SPACE. TOPOGRAPHIC AND CLINICAL ANATOMY OF THE PELVIS TOPOGRAPHIC ANATOMY AND OPERATIVE SURGERY OF THE SPINE Topographic and anatomical characteristics of the lumbar region and retroperitoneal space. Variations in the position of these organs. Cellular spaces and the routes of spread of purulent processes through them in connection with the structural features of the fascial formations of this region. Topographic and anatomical rationale for surgical interventions on the kidneys and ureters. Operations on the lumbar sympathetic trunk to improve collateral circulation. Topographic and anatomical levels of the pelvis. Fascia and cellular spaces of the pelvis. Basic principles of drainage of these spaces. Vessels and nerves of the pelvis. Surgical anatomy of the urinary bladder, prostate gland, rectum, uterus with its appendages. Topographic and anatomical rationale for intrapelvic blockade of nerve formations according to SHKOLNIKOV - SELIVANOV. Operative gynecology. Surgical approaches. Surgeries for ectopic pregnancy, ovarian apoplexy. Amputation of the uterus.	UK-1; UK-6; UK-8 OPK-10; OPK-11	2
14	GENERAL ISSUES OF ENDOSCOPIC OPERATIONS The development of modern endoscopic surgery worldwide and in the Russian Federation. The main advantages of endoscopic surgery. Indications, contraindications, and complications. Endoscopic methods for removing uterine fibroids, tubal ligation, and other laparoscopic surgeries on the uterus and appendages. Laparoscopic cholecystectomy, gastrostomy, drainage of pancreatic cysts.	UK-1; UK-6; UK-8 OPK-10; OPK-11	2
	Total hours		28

2.3 Thematic plan of practical classes and their content.

Topic No.	Name of the topics of practical classes	Contents of the topics of practical classes of the discipline	Competency codes	Forms of control	Labor intensity in hours
1	2	3	4	5	
1.	Surgical instruments. Separation and fusion of tissues. Suture classification. Knots.	Justification of pain relief methods. Infiltration anesthesia according to A.V. Vishnevsky. Study of basic surgical instrumentation, instrument requirements, and rules for use. General principles of tissue separation and reattachment. Suture and knot tying techniques. Suture classification: interrupted, continuous, mattress, etc. Suture material and its brief characteristics. Practicing suture techniques for skin, muscle, fascia, and tendons. Individual, typical, and age-related features of the structure and topography of blood vessels. The contributions of V.N. Shevkunenko's school to this study. Arterial puncture sites for the extremities, with particular attention to the indications and technique for femoral artery puncture using the Seldinger method. Venous puncture sites in the extremities, venesection. Technique of percutaneous puncture and catheterization of the subclavian vein, indications for this procedure. Technique for exposing the great vessels of the upper and lower extremities, taking into account age-related characteristics of their topography. Vascular sutures – circular locking suture with three KARREL holders, two Morozova holders, three Polyantsev U-shaped holders, mechanical vascular suturing (demonstration of the ASC device). Requirements for vascular sutures. To introduce students to the operation of an electric defibrillator, an electric knife, endoscopes, and modern suturing equipment.	UK-1; UK-6; UK-8 OPK-10; OPK-11 ID UK-1.1. ID UK-1.2. ID UK-6.1. ID UK-6.3. ID UK-8.4. ID OPK-10.2. ID OPK-11.4.	Incoming inspection. Frontal survey, solving situational problems, working on a practical assignment, testing in the Moodle system	2

2.	Topographic anatomy of the upper limb. Shoulder girdle. Scapular, subclavian, deltoid, and axillary regions.	Age-related features of the topography of these areas in childhood. External bony and muscular landmarks. Boundaries of the topographic and anatomical regions of the entire upper limb. Muscle groups and fascial sheaths of the vascular and nerve trunks of the subclavian region. Projection of these trunks onto the skin. Openings on the posterior wall of the axillary fossa. Topography of the vascular and neuronal structures passing through these openings. Cellular spaces of the shoulder girdle. Zonal innervation of the skin in the areas under study. The structural features of the shoulder joint and its relationship to surrounding anatomical structures. Layer-by-layer dissection of these areas.	UK-1; UK-6; UK-8 OPK-10; OPK-11 ID UK-1.1. ID UK-1.2. ID UK-6.1. ID UK-6.3. ID UK-8.4. ID OPK-10.2. ID OPK-11.4.	Frontal survey, solving situational problems, working on a practical assignment, current control, testing in the Moodle system	2
3.	Topographic anatomy of the upper limb. Shoulder, cubital fossa, elbow joint, forearm.	Layer-by-layer dissection of the forearm, elbow, forearm, and hand. Holotopy, syntopy, and skeletotopy of the main vascular-nerve bundles within these areas. Intermuscular grooves, canals, and their contents. Muscle compartments and muscle groups within these areas, and the innervation of the muscles within these compartments. Zonal innervation of the skin. Cellular spaces of the forearm. Using a specimen, study the relationship of the elbow joint and the surrounding anatomical structures. The formation and topography of the superficial and deep arterial arches. To study the pathways of pus dissemination in acute inflammatory processes in the forearm. Using the function of the upper limb as an example, to highlight the dialectical unity of the categories "Form and Function in Morphology."	UK-1; UK-6; UK-8 OPK-10; OPK-11 ID UK-1.1. ID UK-1.2. ID UK-6.1. ID UK-6.3. ID UK-8.4. ID OPK-10.2. ID OPK-11.4.	Frontal survey, solving situational problems, working on a practical assignment, current control, testing in the Moodle system	2
4.	Topographic anatomy of the upper limb. Dorsal and palmar surfaces of the hand, fingers, wrist	Layer-by-layer analysis of the palmar and dorsal surfaces of the hand. Formation and topography of the superficial and deep arterial arches. Branching of the median, radial, and ulnar nerves. The carpal tunnel and its contents. Structure of the synovial sheaths of the tendons of the hand muscles. Musculofascial and cellular spaces. Using preparations, study the relationship of the wrist joint to surrounding anatomical structures. The location of vessels and nerves along the fingers. Layer-by-layer dissection of these areas. Pathways for the spread of pus in acute inflammatory processes.	UK-1; UK-6; UK-8 OPK-10; OPK-11 ID UK-1.1. ID UK-1.2. ID UK-6.1. ID	Frontal survey, solving situational problems, working on a practical	2

	joint.	Using the function of antagonist muscles as an example, analyze the law of philosophy "The Law of Unity and Struggle of Opposites."	UK-6.3. ID UK-8.4. ID OPK-10.2. ID OPK-11.4.	assignment, current control, testing in the Moodle system	
5.	Topographic anatomy of the lower limb. Gluteal region, hip joint, thigh.	Checking the acquisition of competencies (testing, interviews on theoretical issues, defense of creative work). Incisions for phlegmon and purulent leaks in these areas External bony and muscular landmarks and their characteristics in childhood. Boundaries of the topographic and anatomical regions of the lower limb. Layer-by-layer analysis of the gluteal region, anterior and posterior thigh. Topography of the femoral neurovascular bundle, deep femoral artery, and great saphenous vein. Muscle groups and fascial compartments, their innervation. Femoral, obturator, and femoropopliteal canals, as well as the femoral triangle. Zonal innervation of the skin. Position of the hip joint in relation to surrounding anatomical structures. Diagnostic value of the Roser-Nelaton line. Layer-by-layer dissection of these areas. Cellular spaces in these areas. Possible routes of pus dissemination during acute inflammatory processes in these areas. Basic rules for making incisions for drainage of purulent processes in the gluteal region and various muscular-fascial compartments of the thigh. Using this example, we will analyze the law of transition from quantity to quality.	UK-1; UK-6; UK-8 OPK-10; OPK-11 ID UK-1.1. ID UK-1.2. ID UK-6.1. ID UK-6.3. ID UK-8.4. ID OPK-10.2. ID OPK-11.4.	Frontal survey, solving situational problems, working on a practical assignment, current control, output control, testing in the Moodle system	2
6	Topographic anatomy of the lower limb. Leg, foot, knee and ankle joint areas.	Layer-by-layer analysis of the popliteal fossa, anterior and posterior sections of the leg, dorsal and plantar surfaces of the foot. Muscle groups and fascial sheaths, their innervation. Topography of the subcutaneous venous vessels and nerves of the leg and foot. Topography of the Jobert fossa, crural-popliteal canal, superior and inferior musculofibular canals, and malleolar canal. Their contents. Cellular spaces of the areas under study. Zonal innervation of the skin of the leg and foot. Layer-by-layer dissection of these areas. Pathways for pus spread during acute inflammatory processes in these areas.	UK-1; UK-6; UK-8 OPK-10; OPK-11 ID UK-1.1. ID UK-1.2. ID UK-6.1. ID UK-6.3. ID UK-	Frontal survey, solving situational problems, working on a practical assignment, current	2

			8.4. ID OPK-10.2. ID OPK-11.4.	control, output control, testing in the Moodle system	
7	Operative surgery of purulent processes (panaritiums, phlegmons of the upper and lower extremities).	Basic principles and rules for incisions in purulent processes (panaritiums, phlegmons of the hand, foot, and other parts of the limb). Surgical instruments used. To review the technique of performing local conduction anesthesia according to Lukashevich-Oberst, focusing on the methods of choosing anesthesia for extremity surgery in children. Particular attention will be paid to the rules for draining purulent cavities (of various locations). Review the routes of spread of purulent processes in the upper and lower extremities. Pay attention to the clinically important connections of the external and middle fascial spaces through the lumbrical canals with the dorsal surface of the second, third, fourth, and fifth fingers, and through the carpal tunnel with Pirogov's space.	UK-1; UK-6; UK-8 OPK-10; OPK-11 ID UK-1.1. ID UK-1.2. ID UK-6.1. ID UK-6.3. ID UK-8.4. ID OPK-10.2. ID OPK-11.4.	Frontal survey, solving situational problems, working on a practical assignment, ongoing monitoring, output control, testing in the Moodle system	2
8	Joint surgeries. Bone surgeries. Amputations and disarticulations.	Practice (following all aseptic and antiseptic precautions) the technique of puncture of the shoulder, elbow, wrist, hip, knee, and ankle joints. Understand the concept of arthrotomy. Vulpius arthrodesis of the shoulder joint. Surgical approaches to bones. Techniques for performing extra- and intramedullary osteosynthesis. Indications and procedures for performing disarticulation at various levels of the limb. Learn the technique for disarticulating the second and fifth toes using the Farabeuf method, the third and fourth toes using the Luppi method, and the toes using the Garanzho method. Circular and flap amputations. Bone plastic surgery using the example of tibia amputation according to N.I. Pirogov and femur amputation according to GRITTI-SHIMANOVSKY. To draw students' attention to the basic principles of limb amputation	UK-1; UK-6; UK-8 OPK-10; OPK-11 ID UK-1.1. ID UK-1.2. ID UK-6.1. ID UK-6.3. ID UK-8.4. ID OPK-10.2. ID OPK-	Frontal survey, solving situational problems, working on a practical assignment, ongoing monitoring, output control,	2

		and reamputation in children (V.I. Razumovsky, 1889). Theoretical interview on the module "Topographic anatomy and operative surgery of the upper and lower limbs".	11.4.	testing in the Moodle system	
9	Topographic anatomy and operative surgery of the brain region of the head.	Division of the skull into the cranial and facial regions. Features of the cranial bone structure in childhood. Topography of the temporal, mammillary, and fronto-occipital regions. The mammillary process region, its structural variations, Shipau's triangle, and its practical significance. Layers of the cranial vault, cellular spaces of these regions, blood supply and innervation, and lymphatic drainage. Topography of the external and internal skull base. Exit sites of the 12 pairs of cranial nerves. Topography of the meninges and their relationship with bone tissue in childhood. Venous sinuses of the dura mater and their topography in children. The Krenlein-Bryusova scheme and its practical significance. Surgical instrumentation used in head surgery. Craniotomy. To draw students' attention to the contributions of Russian scientists to the development of Russian neurosurgery (V.M. Bekhterev, A.L. Polenov, N.N. Burdenko, A.I. Arutyunov, A.P. Romodanov, and others). Anterior and posterior craniocerebral hernias (concept), principles of surgical intervention for this pathology. Craniotomy (decompression and osteoplastic) and its specific features in children. Methods for stopping bleeding from the diploic veins and sinuses of the dura mater. Mastoid trepanation and possible complications during this operation.	UK-1; UK-6; UK-8 OPK-10; OPK-11 ID UK-1.1. ID UK-1.2. ID UK-6.1. ID UK-6.3. ID UK-8.4. ID OPK-10.2. ID OPK-11.4.	Frontal survey, solving situational problems, working on a practical assignment, ongoing monitoring, output control, testing in the Moodle system	2

10	Topographic anatomy of the facial part of the head.	Division of the facial region into regions and boundaries of the facial regions. Study the layered topography of the facial region by regions: buccal region, parotid-masticatory region, deep facial region, nasal region, orbital region, and oral region. Deep facial region. Temporopterygoid and interpterygoid cellular spaces according to N.I. Pirogov. Peripharyngeal and retropharyngeal cellular spaces. Incisions for facial phlegmon, peripharyngeal and retropharyngeal abscesses. Primary surgical treatment of facial wounds. Topography of the facial nerve. To study the relationship of the venous structures and cellular spaces of the facial region with other areas of the head and neck. Exit sites of the terminal branches of the trigeminal nerve.	UK-1; UK-6; UK-8 OPK-10; OPK-11 ID UK-1.1. ID UK-1.2. ID UK-6.1. ID UK-6.3. ID UK-8.4. ID OPK-10.2. ID OPK-11.4.	Frontal survey, solving situational problems, working on a practical assignment, ongoing monitoring, output control, testing in the Moodle system	2
11	Topographic anatomy and operative surgery of the facial part of the head.	To become familiar with and perform incisions on a cadaver for purulent processes on the face. Primary surgical treatment of facial wounds. When analyzing the paths of inflammatory processes on the face, apply the philosophical principles of "the transformation of quantity into quality" and "the unity and struggle of opposites." Surgeries for cleft lip (Vo-Ternovsky, Burian), and for macrostomia (Drakhter). Dissection of the short frenulum of the upper lip. Principles of cleft palate repair. Theoretical interview for the module "Topographic anatomy and operative surgery of the brain and facial parts of the head"	UK-1; UK-6; UK-8 OPK-10; OPK-11 ID UK-1.1. ID UK-1.2. ID UK-6.1. ID UK-6.3. ID UK-8.4. ID OPK-10.2. ID OPK-11.4.	Frontal survey, solving situational problems, working on a practical assignment, ongoing monitoring, output control, testing in the Moodle system	2
12	Topographic anatomy of the neck	Neck boundaries, its division into regions (triangles). The structure of the fascia of the neck, based on the teachings of V.N. SHEVKUNENKO. Interfascial cellular spaces of the neck in clinical illumination. Layer-by-layer dissection and analysis of the topography	UK-1; UK-6; UK-8	Frontal survey, solving	2

		of soft tissues within each region of the neck, special attention is paid to the age-related features of the fascia structure and the prevalence of cellular spaces in the neck. Medial triangle of the neck. Region of the carotid triangle of the neck. Main vessels and nerves of the anterior neck. Topography of the cervical and brachial plexuses in the neck. Topographic anatomy of the lymph nodes of the neck. Topographic anatomy of the larynx, trachea, pharynx, esophagus, thyroid and parathyroid glands. Features of their blood supply and innervation. Topography of the interscalene spaces in the neck. Vascular formations of the neck. Topography of the cervical and brachial plexuses in the neck. Topographic anatomy of the lymph nodes of the neck. Layer-by-layer dissection of regions. Paths of pus spread through the cellular spaces of the neck.	OPK-10; OPK-11 ID UK-1.1. ID UK-1.2. ID UK-6.1. ID UK-6.3. ID UK-8.4. ID OPK-10.2. ID OPK-11.4.	situational problems, working on a practical assignment, ongoing monitoring, output control, testing in the Moodle system	
13	Neck surgery	Topographic and anatomical rationale for surgical approaches to neck abscesses and phlegmons. Primary surgical treatment of penetrating and non-penetrating neck wounds. Excision of congenital cysts (median) and lateral fistulas of the neck. Surgical treatment of congenital cervical venous ectasias. Exposure and ligation of the common and external carotid arteries. Vagosympathetic block according to A.V. Vishnevsky and N.N. Burdenko. Technique for exposure and cannulation of the cervical thoracic lymphatic duct (TLD). Surgeries on the cervical esophagus. Extracapsular hemithyroidectomy with isthmus removal for thyroid tumors. Concept and topographic and anatomical rationale for subtotal subfascial strumectomy according to O.V. Nikolaev. Techniques for tracheal and laryngeal intubation, conicotomy, tracheotomy, and tracheostomy. Microtracheostomy. Potential errors and complications during these surgeries. Congenital muscular torticollis and Mikulicz myotomy for this pathology. Surgeries for accessory cervical ribs. Primary surgical treatment of penetrating and non-penetrating neck wounds.	UK-1; UK-6; UK-8 OPK-10; OPK-11 ID UK-1.1. ID UK-1.2. ID UK-6.1. ID UK-6.3. ID UK-8.4. ID OPK-10.2. ID OPK-11.4.	Frontal survey, solving situational problems, working on a practical assignment, ongoing monitoring, output control, testing in the Moodle system	2
14	Topographic anatomy of the chest and mediastinal organs	External landmarks, division of the chest into regions. Layered structure of the chest wall. Fascia and cellular spaces of the chest wall. Intercostal spaces, age-related features of the position of the intercostal vascular-nerve bundles. Syntopy of the elements of the vascular-nerve bundle, practical significance. The mammary gland (breast): position, structure, blood supply, innervation, lymph drainage. The pleura, its boundaries, pleural sinuses, their clinical significance. The diaphragm, its parts, age-related features, weak	UK-1; UK-6; UK-8 OPK-10; OPK-11 ID UK-1.1. ID	Frontal survey, solving situational problems, working on a	2

		points. Topographic anatomy of the lung: boundaries, division into lobes, zones, segments. Elements of the root of the lung, their topography. Topography of the heart and pericardium. Congenital pericardial sinuses. Congenital and acquired heart defects. Mediastinum. Concept of the mediastinum and its division into sections. Age-related characteristics of mediastinal tissue. Topography of the esophagus, azygos and hemiazygos veins, and the border sympathetic trunk.	UK-1.2. ID UK-6.1. ID UK-6.3. ID UK-8.4. ID OPK-10.2. ID OPK-11.4.	practical assignment, ongoing monitoring, output control, testing in the Moodle system	
15	Surgical surgery of the chest and mediastinal organs.	Develop surgical approaches to mediastinal organs. Incisions for purulent mastitis and retromammary phlegmon. Techniques for performing pleural puncture and pericardial sac puncture. Thoracic drainage with rib resection. Thoracotomy. Segmental and marginal lung resection. Physician's tactics and interventions for various types of pneumothorax. Surgical interventions for congenital diaphragmatic hernias. Heart wound closure. Mitral commissurotomy. Coronary artery bypass grafting. Basics of resuscitation, closed and open cardiac massage, electrical defibrillation, intracardiac drug administration. Surgeries for esophageal atresia and congenital tracheoesophageal fistula. Surgery to correct short esophageal strictures.	UK-1; UK-6; UK-8 OPK-10; OPK-11 ID UK-1.1. ID UK-1.2. ID UK-6.1. ID UK-6.3. ID UK-8.4. ID OPK-10.2. ID OPK-11.4.	Frontal survey, solving situational problems, working on a practical assignment, ongoing monitoring, output control, testing in the Moodle system	2

16	**Final lesson**	Theoretical interview on thematic modules: **<u>1.</u>"Surgical instruments and rules for working with them. Methods of separating and connecting soft tissues"** **<u>2.</u>"Topographic anatomy and operative surgery of the upper and lower extremities";** 3. "Topographic anatomy and operative surgery of the brain and facial parts of the head" Writing a test control for the module "Topographic anatomy and operative surgery of the neck".	UK-1; UK-6; UK-8 OPK-10; OPK-11 ID UK-1.1. ID UK-1.2. ID UK-6.1. ID UK-6.3. ID UK-8.4. ID OPK-10.2. ID OPK-11.4.	Frontal survey, solving situational problems, working on a practical assignment, ongoing monitoring, output control, testing in the Moodle system	2
17	**Testing on the results of mastering the topics of the 4th semester**	Checking the results of mastering the basic competencies on the topics of the 4th semester.	UK-1; UK-6; UK-8 OPK-10; OPK-11 ID UK-1.1. ID UK-1.2. ID UK-6.1. ID UK-6.3. ID UK-8.4. ID OPK-10.2. ID OPK-11.4.	Incoming inspection, outgoing inspection	2

5th semester

Topic No.	Name of the topics of practical classes	Contents of the topics of practical classes of the discipline	Competency codes	Forms of control	Labor intensity in hours
1	2	3	4	5	
1	Topographic anatomy of the anterolateral abdominal wall. Surgical approaches to the abdominal organs.	External landmarks, conventional division into regions of the anterolateral abdominal wall. Layered topography. Weak points of the anterolateral abdominal wall. The structure of the linea alba and umbilical ring as potential hernia sites. The process of testicular descent and the testicular membrane. Topography of the inguinal canal. Inguinal space. Topography of various sections of the diaphragm. Weak points of the diaphragm. Discuss collateral venous outflow pathways in thrombosis of the inferior vena cava and portal vein system.	UK-1; UK-6; UK-8 OPK-10; OPK-11 ID UK-1.1. ID UK-1.2. ID UK-6.1. ID UK-6.3. ID UK-8.4. ID OPK-10.2. ID OPK-11.4.	Frontal survey, solving situational problems, working on a practical assignment, ongoing monitoring, output control, testing in the Moodle system	2
2	Surgical anatomy of abdominal hernias.	Abdominal puncture (PBSG puncture). Surgeries for congenital umbilical fistulas. Plastic surgery of the anterior abdominal wall for aplasia of the abdominal muscles (Prune-Belly syndrome). Surgeries for ventral hernias. Plastic surgery of the hernial canal walls in congenital, strangulated and sliding inguinal hernias. Techniques for inguinal canal repair for oblique inguinal hernias using the methods of RU-KRASNOBAYEV, MARTYNOV, KRASNOBAYEV, and ZHIRARD-SPASOKUKOTS-KOGO, as modified by KIMBAROVSKY. Analysis of hernial canal repair for direct inguinal hernias using the methods of BASSINI and RUGGI-PARLAVECCIO. Umbilical hernias. Umbilical hernia repair according to LEXER and SAPEZHKO,	UK-1; UK-6; UK-8 OPK-10; OPK-11 ID UK-1.1. ID UK-1.2. ID UK-6.1. ID UK-6.3. ID UK-8.4. ID OPK-10.2. ID OPK-	Frontal survey, solving situational problems, working on a practical assignment, ongoing monitoring, output	2

		and abdominal line repair according to NAPALKOV.	11.4.	control, testing in the Moodle system	
3	Topographic anatomy of the abdominal cavity. Bursae, canals, pockets. Revision of the abdominal cavity.	Features of the abdominal cavity topography. Abdominal cavity floors. Topographic anatomy of peritoneal structures: ligaments, folds, pockets, bursae, and canals. The greater and lesser omentums. Variations in the structure of the greater omentum in children. Characteristic features of the blood supply, innervation, and lymphatic drainage of the organs of the upper and lower abdominal cavity. Laparoscopy and fibrolaparoscopy as diagnostic procedures. Pathways for the spread of purulent processes from the lower to the upper tract and back. Using the example of lymphatic spread of infection, apply the law of transformation of quantitative changes into qualitative ones.	UK-1; UK-6; UK-8 OPK-10; OPK-11 ID UK-1.1. ID UK-1.2. ID UK-6.1. ID UK-6.3. ID UK-8.4. ID OPK-10.2. ID OPK-11.4.	Frontal survey, solving situational problems, working on a practical assignment, ongoing monitoring, output control, testing in the Moodle system	2
4	Topographic anatomy of the organs of the upper abdominal cavity: liver, gallbladder, stomach,	The peritoneum and its relation to the abdominal organs. Topographic anatomy and topographic features of the upper abdominal organs: stomach, pancreas, liver, gallbladder, and spleen. Developmental defects and anomalies of these organs. Arterial blood supply and venous drainage of these organs. The portal vein, its origins, and its relationship with the pancreas. Portal hypertension.	UK-1; UK-6; UK-8 OPK-10; OPK-11 ID UK-1.1. ID UK-1.2. ID UK-6.1. ID UK-6.3.	Frontal survey, solving situational problems, working on a practical	2

	duodenum.		ID UK-8.4. ID OPK-10.2. ID OPK-11.4.	assignment, ongoing monitoring, output control, testing in the Moodle system	
5	Topographic anatomy of the organs of the lower abdominal cavity: small and large intestines.	Projection of organs on the anterior abdominal wall. Syntopy and skeletotopy of the duodenum, small and large intestines. Topography of the appendix in children and its various positions. Arterial blood supply and venous drainage of the small and large intestines, innervation, and lymphatic drainage. Malformations of these organs. Modern methods of examining the gastrointestinal tract, biliary tract, and gallbladder (fibroscopy). Theoretical interview on the topic: "Topographic anatomy of the abdominal organs"	UK-1; UK-6; UK-8 OPK-10; OPK-11 ID UK-1.1. ID UK-1.2. ID UK-6.1. ID UK-6.3. ID UK-8.4. ID OPK-10.2. ID OPK-11.4.	Frontal survey, solving situational problems, working on a practical assignment, ongoing monitoring, output control, testing in the Moodle system	2
6	Mastering practical skills in organ-complex surgery: intestinal sutures, the first stage of small bowel resection – mobilization of	Abdominal puncture. Practicing intestinal suturing techniques. Small bowel resection – the first stage is mobilization of the resected area. Appendectomy. Stump treatment methods. Retrograde appendectomy. Resection of Meckel's diverticulum. Colon surgery for volvulus and strangulation. Analysis of colostomy stages. Artificial anus placement. Fundamental differences between colostomy and anus praeter naturalis. Analysis of surgical stages of portocaval anastomoses.	UK-1; UK-6; UK-8 OPK-10; OPK-11 ID UK-1.1. ID UK-1.2. ID UK-6.1. ID UK-6.3. ID UK-	Frontal survey, solving situational problems, working on a practical assignment, ongoing	2

	the resected segment. Appendectomy. Colostomy. Artificial portocaval anastomoses.		8.4. ID OPK-10.2. ID OPK-11.4.	monitoring, output control, testing in the Moodle system	
7	Acquisition of practical competencies in organ complexes: resection of the small intestine, formation of a stump according to Doyen, formation of an interintestinal anastomosis of the "side to side" type.	Practicing the technique of stump formation according to Doyen. Small intestine resection – formation of an interintestinal anastomosis of the “side to side” type.	UK-1; UK-6; UK-8 OPK-10; OPK-11 ID UK-1.1. ID UK-1.2. ID UK-6.1. ID UK-6.3. ID UK-8.4. ID OPK-10.2. ID OPK-11.4.	Frontal survey, solving situational problems, working on a practical assignment, ongoing monitoring, output control, testing in the Moodle system	2
8	Acquisition of practical competencies in organ complexes: resection of the small intestine, formation of interintestinal anastomosis of	Practicing the technique of applying intestinal suture according to: Cherny, Lambert, Joly, Schmiden. Small intestine resection – formation of an interintestinal anastomosis of the “side to side” type.	UK-1; UK-6; UK-8 OPK-10; OPK-11 ID UK-1.1. ID UK-1.2. ID UK-6.1. ID UK-6.3. ID UK-	Frontal survey, solving situational problems, working on a practical assignment , ongoing monitoring,	2

	the "side to side" type, seromuscular sutures of Cherny, Lambert, Joly, Schmiden sutures.		8.4. ID OPK-10.2. ID OPK-11.4.	output control, testing in the Moodle system	
9	Mastering practical competencies on organ complexes: resection of the small intestine, formation of interintestinal anastomosis of the “end-to-end” type.	Practicing the execution technique small intestine resections – formation of an interintestinal anastomosis of the “end-to-end” type. Theoretical interview on the stages of small intestine resection and intestinal sutures.	UK-1; UK-6; UK-8 OPK-10; OPK-11 ID UK-1.1. ID UK-1.2. ID UK-6.1. ID UK-6.3. ID UK-8.4. ID OPK-10.2. ID OPK-11.4.	Frontal survey, solving situational problems, working on a practical assignment, ongoing monitoring, output control, testing in the Moodle system	2
10	Acquisition of practical competencies in organ complexes: gastrostomies according to Witzel, Toprover,	Gastric surgery. Pylorotomy according to FREDE-RAMSTEDT. Dissection, suture, gastric fistula, gastrointestinal anastomoses. Gastrostomy according to TOPROVER, WITZEL, and STAMM-KADER. Principles of gastric resection, organ-preserving surgery for complications of duodenal ulcer (bleeding, perforation), (vagotomy), drainage surgery. Gaxtroduodenostomy, gastroenterostomy, duodenojejunostomy.	UK-1; UK-6; UK-8 OPK-10; OPK-11 ID UK-1.1. ID UK-1.2. ID UK-6.1. ID UK-6.3. ID UK-	Frontal survey, solving situational problems, working on a practical assignment, ongoing	2

	Stamm-Kader. Pyloroplasties. Gastric resections. Gastroenteroanastomoses.		8.4. ID OPK-10.2. ID OPK-11.4.	monitoring, output control, testing in the Moodle system	
11	Acquisition of practical competencies in organ complexes: liver surgery, cholecystectomy, Kuznetsov-Pensky hemostatic sutures, endoscopic surgery on abdominal organs.	Liver and biliary tract surgeries. Hemostatic sutures on the liver (Kuznetsov-Pensky, Giordino, Opel). Liver resection (right and left hemihepatectomy). Surgeries for congenital biliary atresia. Cholecystectomy. Endoscopic surgeries on the organs of the hepatopancreatobiliary system. The concept of minimally invasive endoscopic surgeries on the abdominal organs (cholecystectomy, microcholecystectomy, single-port cholecystectomy, cholecystostomy, Access to the pancreas. Removal of the spleen.	UK-1; UK-6; UK-8 OPK-10; OPK-11 ID UK-1.1. ID UK-1.2. ID UK-6.1. ID UK-6.3. ID UK-8.4. ID OPK-10.2. ID OPK-11.4.	Frontal survey, solving situational problems, working on a practical assignment, ongoing monitoring, output control, testing in the Moodle system	2
12	Topographic anatomy of the lumbar region and retroperitoneal space. Fasciae and cellular spaces of the retroperitoneal region.	Boundaries and external landmarks of the lumbar region. Structure of the posterolateral abdominal wall and its weaknesses. Fasciae and cellular spaces of the retroperitoneal region. Their characteristics in children. Topographic anatomy of the kidneys, adrenal glands, ureters, abdominal aorta, inferior vena cava, nerve plexuses, and sympathetic ganglia. Differences in their structure and position in children. Retroperitoneal lymph nodes.	UK-1; UK-6; UK-8 OPK-10; OPK-11 ID UK-1.1. ID UK-1.2. ID UK-6.1. ID UK-6.3. ID UK-8.4. ID OPK-10.2. ID OPK-	Frontal survey, solving situational problems, working on a practical assignment, ongoing monitoring,	2

			11.4.	output control, testing in the Moodle system	
13	Surgical interventions of retroperitoneal organs: kidneys, ureters, sympathectomy.	Surgical approaches to the retroperitoneal organs (Fedorov, Bergman, Shevkunenko). Kidney surgeries (nephrotomy, nephrostomy, renal decapsulation, nephropexy, nephrectomy). Sympathectomy. Epinephrectomy. Ureteral surgeries.	UK-1; UK-6; UK-8 OPK-10; OPK-11 ID UK-1.1. ID UK-1.2. ID UK-6.1. ID UK-6.3. ID UK-8.4. ID OPK-10.2. ID OPK-11.4.	Frontal survey, solving situational problems, working on a practical assignment, ongoing monitoring, output control, testing in the Moodle system	2
14	Topographic anatomy of the pelvis and perineum.	Pelvic boundaries and external landmarks. Bone and ligamentous structure, musculature of the pelvic walls and floor. Pelvic floors. Peritoneal course in the pelvis in male and female children. Peritoneal folds. Pelvic fascia. Cellular spaces: parietal and periorgan. Lateral parietal cellular spaces of the pelvis. Topography of the external and internal iliac arteries, their branches, and nerve trunks. Structural and topographic features of the urinary bladder, prostate gland, vas deferens, uterus, ovaries, and vagina.	UK-1; UK-6; UK-8 OPK-10; OPK-11 ID UK-1.1. ID UK-1.2. ID UK-6.1. ID UK-6.3. ID UK-8.4. ID OPK-10.2. ID OPK-	Frontal survey, solving situational problems, working on a practical assignment, ongoing monitoring,	2

			11.4.	output control, testing in the Moodle system	
15	Pelvic surgery: uterine and adnexal procedures, bladder, prostate, and testicular procedures. Endoscopic kidney, ureter, uterine, and adnexal procedures. Surgeries for paraproctitis and hemorrhoids.	Pelvic organ surgeries. Bladder puncture. High bladder incision. Urethrocele and surgical treatment of the condition. Surgeries for malformations: cryptorchidism, hydrocele, phimosis, anal and rectal atresia. Intrapelvic anesthesia according to Shkolnikov-Selivanov. Surgeries for hydrocele and spermatic cord. Surgical treatment of testicular malposition. Hypospadias surgery. Prostate surgery (adenomectomy). Bladder puncture, cystostomy. Surgeries for ectopic bladder. Surgeries for uterine and adnexal pathologies (ectopic pregnancy, ovarian apoplexy, supravaginal uterine amputation). Endoscopic surgeries on the kidneys, ureters, uterus, and appendages: endoscopic nephrectomy, ureterolithotomy, and amputation of the uterus and appendages. Surgeries for acute and chronic paraproctitis and hemorrhoids.	UK-1; UK-6; UK-8 OPK-10; OPK-11 ID UK-1.1. ID UK-1.2. ID UK-6.1. ID UK-6.3. ID UK-8.4. ID OPK-10.2. ID OPK-11.4.	Frontal survey, solving situational problems, working on a practical assignment, ongoing monitoring, output control, testing in the Moodle system	2
16	**Final lesson**	Conducting an oral survey and testing practical skills (competencies) based on the results of mastering the topics of 4.5 semesters	UK-1; UK-6; UK-8 OPK-10; OPK-11 ID UK-1.1. ID UK-1.2. ID UK-6.1. ID UK-6.3. ID UK-8.4. ID	Frontal survey, solving situational problems, working on a practical assignmen	2

			OPK-10.2. ID OPK-11.4.	t, ongoing monitoring, output control, testing in the Moodle system	

2.4 Interactive forms of learning

In order to activate students' cognitive activity, interactive teaching methods are widely used in practical classes (interactive surveys, work in small groups, computer testing,work on a medical simulator for the development of surgical skills during endoscopic operations, developed by Doctor of Medical Sciences V.V. Grebenyuk (RUS Patent for Utility Model No. 147842 dated 16.10.2014 / published 20.11.2014 / Bulletin No. 32) (TLS-1)), participation in educational, research and scientific research work.

Interactive forms of conducting classes

4th Semester

Item No.	Topic of the practical lesson, lecture	Labor intensity in hours	Interactive learning	Labor intensity in hours, as a percentage of the lesson
1	Surgical instruments. Separation and fusion of tissues. Suture classification. Knots.	2	Introduction to endoscopic instrumentation. Interactive survey.	16 minutes (0.25 hours) / 6.6%
2	Topographic anatomy of the upper limb. Shoulder girdle. Scapular, subclavian, deltoid, and axillary regions.	2	Interactive survey. Preparation of cadaveric material	16 minutes (0.25 hours) / 6.6%
3	Topographic anatomy of the upper limb. Shoulder, cubital fossa, elbow joint, forearm.	2	Solving situational problems. Peer review of notes.	16 minutes (0.25 hours) / 6.6%
4	Topographic anatomy of the upper limb. Dorsal and palmar surfaces of the hand, fingers, wrist joint.	2	Solving situational problems. Discussion	16 minutes (0.25 hours) / 6.6%
5	Topographic anatomy of the lower limb. Gluteal region, hip joint, femur.	2	Interactive survey. Preparation of cadaveric material	16 minutes (0.25 hours) / 6.6%
6	Topographic anatomy of the lower limb. Leg, foot, knee and ankle joints.	2	Small group method. Solving situational problems.	16 minutes (0.25 hours) / 6.6%
7	Operative surgery of purulent processes (panaritiums, phlegmons of the upper and lower extremities).	2	Video films. Situational tasks	16 minutes (0.25 hours) / 6.6%
8	Joint surgeries. Bone surgeries. Amputations and disarticulations.	2	Video films. Simulation tasks	16 minutes (0.25 hours) / 6.6%
9	Topographic anatomy and surgical treatment of the brain region of the head.	2	Interactive survey	16 minutes (0.25 hours) / 6.6%
10	Topographic anatomy of the facial part of the head.	2	Video films. Situational tasks.	16 minutes (0.25 hours) / 6.6%
11	Topographic anatomy and	2	Video films.	16 minutes (0.25

	operative surgery of the facial part of the head.		Situational tasks	hours) / 8.3%
12	Topographic anatomy of the neck	2	Discussion	16 minutes (0.25 hours) / 6.6%
13	Neck surgery	2	Interactive survey	16 minutes (0.25 hours) / 6.6%
14	Topographic anatomy of the chest and mediastinal organs	2	Computer presentations	16 minutes (0.25 hours) / 6.6%
15	Surgical surgery of the chest and mediastinal organs.	2	Interactive survey	16 minutes (0.25 hours) / 6.6%
16	Final lesson	2	Interactive survey	16 minutes (0.25 hours) / 6.6%
17	Testing on the results of mastering the topics of the 4th semester	2	In the moodl system	45 minutes (0.75 hours/35%
	5th semester			
1	Topographic anatomy of the anterolateral abdominal wall. Surgical approaches to abdominal organs.	2	Videos. Solving situational problems. Interactive survey.	12 minutes (0.20 hours) / 5.6%
2	Surgical anatomy of abdominal hernias.	2	Work on the Medical simulator for the development of surgical skills in endoscopic operations, developed V.V. Grebenyuk (RUSSIAN FEDERATION PATENT for utility model No. 147842 dated 16.10.2014 / published 20.11.2014 / Bulletin No. 32) (TLS-1)). Peer review of notes.	12 minutes (0.20 hours) / 5.6%
3	Topographic anatomy of the abdominal cavity. Bursae, canals, and pockets. Examination of the abdominal cavity.	2	Work on (TLS-1) Computer simulations.	12 minutes (0.20 hours) / 5.6%
4	Topographic anatomy of the organs of the upper abdominal cavity: liver, gallbladder, stomach, duodenum.	2	Work on (TLS-1). Video films. Situational Tasks.	12 minutes (0.25 hours) / 5.6%
5	Topographic anatomy of the organs of the lower abdominal cavity: small and large intestines.	2	Work on (TLS-1). Video films. Situational tasks.	12 minutes (0.20 hours) / 5.6%
6	Mastering practical	2	Work on (TLS-1).	12 minutes (0.20

	competencies in organ complexes: intestinal sutures, the first stage of small intestine resection - mobilization of the resected area.		Video films. Situational tasks. Interactive survey.	hours) / 5.6%
7	Acquisition of practical competencies in organ complexes: resection of the small intestine, formation of a stump according to Doyen, formation of an interintestinal anastomosis of the “side to side” type.	2	Work on (TLS-1). Video films. Situational tasks	12 minutes (0.20 hours) / 5.6%
8	Mastering practical competencies in organ complexes: resection of the small intestine, formation of interintestinal anastomosis according to the type "side to side", seromuscular sutures of Cherny, Lambert, Joly, Schmiden sutures.	2	Work on (TLS-1). Video films Situational tasks. Interactive survey.	12 minutes (0.20 hours) / 5.6%
9	Acquisition of practical competencies in organ complexes: resection of the small intestine, formation of an interintestinal anastomosis of the “end-to-end” type.	2	Work on (TLS-1). Video films. Computer presentations	12 minutes (0.20 hours) / 5.6%
10	Acquisition of practical competencies in organ complexes: gastrostomies according to Witzel, Toprover, Stamm-Kader. Pyloroplasties. Gastric resections. Gastroenteroanastomoses.	2	Work on (TLS-1). Video films Computer presentations. Situational tasks.	12 minutes (0.20 hours) / 5.6%
11	Acquisition of practical competencies in organ complexes: liver surgery, cholecystectomy, Kuznetsov-Pensky hemostatic sutures, endoscopic surgery on abdominal organs.	2	Work on (TLS-1). Video films. Computer presentations.	12 minutes (0.20 hours) / 5.6%
12	Topographic anatomy of the lumbar region and retroperitoneal space. Fasciae and cellular spaces	2	Work on (TLS-1). Video films. Interactive survey.	12 minutes (0.20 hours) / 5.6%

	of the retroperitoneal region.			
13	Surgical interventions of retroperitoneal organs: kidneys, ureters, sympathectomy.	2	Work on (TLS-1). Video films. Situational tasks.	12 minutes (0.20 hours) / 5.6%
14	Topographic anatomy of the pelvis and perineum.	2	Work on (TLS-1). Video films. Interactive survey.	12 minutes (0.20 hours) / 5.6%
15	Pelvic surgery: uterine and adnexal procedures, bladder, prostate, and testicular procedures. Endoscopic kidney, ureter, uterine, and adnexal procedures. Surgeries for paraproctitis and hemorrhoids.	2	Work on (TLS-1). Video films. Computer presentations	12 minutes (0.20 hours) / 5.6%
16	Final lesson	2	Interactive survey	12 minutes (0.20 hours) / 5.6%
17	Final testing in the Moodle system	2	In the moodl system	60 minutes (1 hour) / 50%

2.5 Criteria for assessing student learning outcomes

The assessment of learning outcomes is carried out in accordance with the “Regulations on the system for assessing the learning outcomes of students of the Federal State Budgetary Educational Institution of Higher Education Amur State Medical Academy of the Ministry of Health of the Russian Federation.

The basis for determining the level of knowledge, skills, and abilities are the assessment criteria - completeness and correctness:

- correct, precise answer;
- correct but incomplete or imprecise answer
- Incorrect answer; no answer.

When assigning marks, the classification of errors and their quality are taken into account:

- gross errors;
- similar errors;
- minor errors; shortcomings.

The success of students in mastering the topics of the discipline "Topographic Anatomy and Operative Surgery" is determined by the quality of acquisition of knowledge, skills and practical abilities, the assessment is given on a five-point scale: "5" - excellent, "4" - good, "3" - satisfactory, "2" - unsatisfactory.

Evaluation criteria

Quality of development	Mark on a 5-point scale
90 - 100%	"5"
80 - 89%	4
70 - 79%	3

less than 70%	"2"

Incoming inspection

Conducted during the first lesson, includes: testing in the Moodle system.

Access mode for 4th semester:https://educ-amursma.ru/course/view.php?id=93

Access mode for 5th semester:https://educ-amursma.ru/course/view.php?id=93

The test control includes questions on the course of topographic anatomy and operative surgery.

Current control

Current control includes initial and final control of knowledge.

Initial control is carried out by the teacher at the beginning of each lesson in the form of a frontal survey, problem solving and exercises.

Final assessment – includes assessment of the technique of performing practical skills, written work on options, and testing in the Moodle system.

Access mode for 4th semester:https://educ-amursma.ru/course/view.php?id=93

Access mode for 5th semester:https://educ-amursma.ru/course/view.php?id=93

The final grade during the current knowledge assessment is given on the day of the lesson, as the arithmetic mean result for all types of activities provided for in the given lesson of the discipline's work program.

Oral response assessment criteria

- **"5" (excellent)**– the student demonstrates deep and complete knowledge of the educational material, does not allow inaccuracies or distortions of facts when presenting, presents the material in a logical sequence, is well versed in the material being presented, and can provide justification for the judgments expressed.
- **"4" (good)**- the student has mastered the educational material in full, is well oriented in the educational material, presents the material in a logical sequence, but makes inaccuracies in his answers.
- **"3" (satisfactory)**– the student has mastered the basic principles of the practical lesson topic, but when presenting the educational material, he/she makes inaccuracies, presents it incompletely and inconsistently, requires leading questions from the teacher to present it, and experiences difficulties in substantiating the judgments expressed.
- **"2" (unsatisfactory)**– the student has fragmented and unsystematic knowledge of the educational material, is unable to distinguish between the main and the secondary, makes mistakes in defining basic concepts, distorts their meaning, and is unable to independently present the material.

Assessment criteria for the practical part

- **"5" (excellent)**– the student has fully mastered the practical skills and abilities provided for by the course curriculum.
- **"4" (good)**– the student has fully mastered the practical skills and abilities provided by the course curriculum, but makes some inaccuracies.
- **"3" (satisfactory)**– the student has only some practical skills and abilities.
- **"2" (unsatisfactory)**– the student demonstrates the performance of practical skills and abilities with gross errors.

Assessment criteria for independent extracurricular work:

- the level of mastery of the educational material by the student;
- the completeness and depth of general educational concepts, knowledge and skills on the topic being studied, to which this independent work relates;

- development of universal and general professional competencies (ability to apply theoretical knowledge in practice).
- The problems were solved correctly, the exercises were completed, and the test assignments were answered accurately – “passed”.
- Problems were not solved correctly, exercises were not completed correctly, or test assignments were not answered accurately – “failed”.

Abstract evaluation criteria:

- **"5" (excellent) –**is awarded to a student if he has prepared a complete, detailed, and formatted according to the requirements, abstract on the chosen topic, and presented hiswork in the form of a report with a computer presentation, answered questions on the topic of the report;
- **"4" (good) -**is awarded to a student for a complete, detailed essay, formatted according to requirements, but poorly presented;
- **"3" (satisfactory) –**the abstract does not contain information on the issue being studied in full, is formatted with errors, and is poorly presented;
- **"2" (unsatisfactory)**– is given to a student if the paper is not written, or is written with serious errors, the report and computer presentation are not prepared, or their content does not correspond to the topic of the paper.

Working off disciplinary debts.

1. If a student misses a class for a valid reason, they have the right to make up the missed class and receive the maximum grade allowed for that class as stipulated by the course syllabus. A valid reason must be documented.
2. If a student misses a class without an excuse or receives a "2" grade for all activities during the class, they are required to make up the missed class. The grade received for all activities is multiplied by 0.8.
3. If a student is excused from a class at the request of the dean's office (participation in sports, cultural and other events), then he is given a grade of "5" for this class, provided that he submits a report on the completion of mandatory extracurricular independent work on the topic of the missed class.

Criteria for assessing midterm assessment.

Midterm assessment (exam in the 5th semester) is designed to assess the degree of achievement of planned learning outcomes upon completion of the course and allows for an assessment of the level and quality of its mastery by students.

The students’ success in mastering the discipline is assessed on a 5-point system: “5” – excellent, “4” – good, “3” – satisfactory, “2” – unsatisfactory.

"Great" -For the depth and completeness of mastery of the course material, which the student navigates easily, for the ability to connect theoretical questions with practical ones, express and justify their judgments, and present their answers competently and logically; during testing, they allow up to 10% incorrect answers. The practical skills and abilities required by the course curriculum have been fully mastered.

"Fine" -The student has fully mastered the course material, is familiar with it, and presents answers competently, but the content and format contain some inaccuracies; during testing, they make up to 20% incorrect answers. They have fully mastered the practical skills and abilities required for the course, but make some inaccuracies.

"Satisfactorily"- The student has mastered the knowledge and understanding of the basic concepts of the course material, but presents it incompletely, inconsistently, and is unable to express and justify their judgments; during testing, they make up to 30% incorrect answers. They possess only some practical skills and abilities.

"Unsatisfactory"- the student has fragmented and unsystematic knowledge of the educational material, is unable to distinguish between the main and the secondary, makes mistakes in defining concepts, distorts their meaning, presents the material in a disorderly and uncertain manner,When tested, he makes more than 30% incorrect answers. He performs practical skills and abilities with significant errors.

A student may be eligible for an automatic "excellent" grade if they have won a prize in a disciplinary or interdisciplinary Olympiad (university or regional) and have an average grade point average of at least 4.8 points based on their current academic performance. A student may opt out of this automatic grade and take the test with their group on a standard basis.

Interim assessment is carried out through a 3-stage exam system:

1. Final testing in the Moodle system:
   Access mode for 5th semester:https://educ-amursma.ru/course/view.php?id=93
2. Full completion of the practical portion of the course: requires attendance at all practical classes, completion of practical skills, and completion of a report. Based on the assessments of knowledge, skills, and abilities during practical classes, the average grade point average (APA) for current academic performance is calculated and recorded in the course (electronic) journal. The average APA for current knowledge assessment is taken into account during the midterm assessment.
3. Passing the theoretical part of the exam – answers to the examination questions (control of the level of development of competencies).

Criteria for final assessment (midterm assessment)

Great -For the depth and completeness of mastery of the course material, which the student navigates easily, for the ability to connect theoretical questions with practical ones, express and justify their judgments, and present their answers competently and logically; during testing, they allow up to 10% incorrect answers. The practical skills and abilities required by the course curriculum are fully mastered.

"Fine" -The student has fully mastered the course material, is familiar with it, and presents answers competently, but the content and format contain some inaccuracies; during testing, they make up to 20% incorrect answers. They have fully mastered the practical skills and abilities required for the course, but make some inaccuracies.

"Satisfactorily"- The student has mastered the knowledge and understanding of the basic concepts of the course material, but presents it incompletely, inconsistently, and is unable to express and justify their judgments; during testing, they make up to 30% incorrect answers. They possess only some practical skills and abilities.

"Unsatisfactory"- the student has fragmented and unsystematic knowledge of the educational material, is unable to distinguish between the main and the secondary, makes mistakes in defining concepts, distorts their meaning, presents the material in a disorderly and uncertain manner,When tested, he makes more than 30% incorrect answers. He performs practical skills and abilities with significant errors.

Based on the results of various assessments, an average grade is given in favor of the student.

A student may be eligible for an automatic "excellent" grade if they have won a prize in a disciplinary or interdisciplinary Olympiad (university or regional) and have an average grade point average of at least 4.8 points based on their current academic performance. A student may decline the automatic grade and take the exam or test with their group on a standard basis.

Assessment criteria for midterm assessment (3rd semester)

Stages	Mark out of 5 point scale	Binary scale
Test control in the Moodle system	3-5	**5 – "excellent"**
Complete completion of the practical part of the course	3-5	**4 – "good"** **3 – "satisfactory"**
Completion of practical skills (control of	3-5	

competence development)		
Test control in the Moodle system	2	**2 – "unsatisfactory"**
Complete completion of the practical part of the course	2	
Completion of practical skills (control of competence development)	2	

2.6 Independent work of students: in-class and out-of-class.

The organization of independent classroom work of students is carried out with the help of methodological instructions for students, which contain educational goals, a list of the main theoretical issues for study, a list of practical work and the methodology for conducting it, instructions for the presentation of the obtained results, their discussion and conclusions, assignments for self-control with standard answers, a list of recommended literature.

Independent classroom work of students

The main didactic objectives of students' independent work under the guidance of a teacher are: consolidating the knowledge and skills acquired during the course of study in lectures and practical classes; expanding and deepening the educational material; developing the ability and skills of independent work; and developing students' independent thinking and creativity.

Students' independent classroom work includes: working in the dissection room and operating room, solving situational problems, completing a workbook, familiarizing themselves with the department's teaching aids, tables, and diagrams, and writing conclusions based on instrumental studies presented. Also included:

1. Dissection of the corpse by regions under the supervision of the instructor on duty;
2. Acquisition of practical skills;
3. Study of surgical instruments and the ability to work with them;

Students' independent extracurricular work

Goal-setting stages of students' independent extracurricular work

- Personal work with ready-made didactic tools;
- Individual work with complex teaching aids;
- Collective activity based on independent work;
- Individual independent work with elements of directed research search;
- Use of independent work for scientific research creativity (in and out of class time).

Types of personal work with ready-made didactic tools

1) Working with traditional sources of information:
2) Working with educational teaching aids;
3) Working with control means:
   - Situational tasks
   - Illustrations (options for lesson or test topics)
   - Test tasks
   - Tickets for sectional assessments

Forms of ongoing extracurricular independent work of students

1. Familiarization with literature containing additional information on a specific problem (monographs, scientific periodicals), including the use of modern remote information tools (Internet);
2. Search for literature containing educational medical information on issues of topographic anatomy and operative surgery;

3. Reproduction of drawings, diagrams, tables reflecting the features of a particular surgical operation of medical significance;
4. Development of schemes, classifications, tables on any problem, their protection;
5. Development of presentations on the topic of the lesson;
6. “Reading” micrographs.

Organization of extracurricular independent work of students in the discipline "Topographic anatomy and operative surgery"

Item No.	Topic of the practical lesson	Time for a student to prepare for a lesson	Forms of extracurricular independent work of students	
			Compulsory and the same for all students	At the student's choice
Topics for independent work in semester 4				
1	Surgical Instruments. Tissue Separation and Reattachment. Sutures	1.5 hours	Learn surgical instruments, basic types of sutures and knots, and study vascular suture patterns (Cuneo, Carell, Gorsley)..	Make a simulated wound (skin, aponeurosis). Draw a diagram of tendon sutures. Familiarize yourself with the design and mechanism of action of vascular suturing devices.
2	Topographic anatomy of the upper limb. Shoulder girdle	1.5 hours	Study the vascular suture patterns (Cuneo, Carell, Gorsley)	Draw a diagram of tendon sutures. Learn about the structure and mechanism of action of vascular suturing devices.
3	Topographic anatomy of the upper limb. Shoulder, elbow joint, forearm	1.5 hours	Describe the projection lines of the main vascular-nerve bundles (brachial, radial, ulnar, median).	Draw the collateral circulation of the elbow joint. Draw a cross-section of the shoulder and forearm in the middle. thirds.
4	Topographic anatomy of the upper limb. Wrist joint, hand	1.5 hours	Study the anatomy of the hand bones. Draw a diagram of the formation of the superficial and deep arterial arches of the palm.	Complete a computer presentation on the blood supply and innervation of the hand. Draw a cross-section of the hand in the middle third of the metacarpal bones.
5	Topographic anatomy of the lower limb - hip joint, gluteal region, thigh	1.5 hours	To study the collateral arterial network of the hip joint.	Draw the Roser-Nelaton diagram and describe its diagnostic value in dislocations and fractures of the femoral neck.
6	Topographic anatomy of the lower limb. Leg, foot, knee and ankle joints	1.5 hours	Study the collateral circulation of the knee joint. Draw a cross-section of the leg in the middle third.	Sketch the joints of the foot. Create a computer presentation on the topographic anatomy of the lower limb.
7	Operative surgery of	1.5 hours	Study surgical incisions	Draw incision diagrams for

	purulent processes (panaritiums, phlegmons of the upper and lower extremities)		for purulent processes of the hand (panaritiums, phlegmons). Study incision diagrams for panaritiums.	purulent processes in the shoulder and forearm. Draw incision diagrams on the foot (Delorme).
8	Joint surgeries. Bone surgeries. Amputation and disarticulation	1.5 hours	To study the puncture of lower limb joints. To study the Pirogov osteoplastic amputation scheme.	Prepare a computer presentation on knee and hip joint transplantation
9	Topographic anatomy and surgical procedures of the brain	1.5 hours	To study the layered structure of the cranial vault tissues. To study the diagram of surgical approaches to the brain.	Write down in your notebooks the exit points, innervation zones and symptoms of damage to each of the 12 pairs of cranial nerves Complete a computer presentation on bone-plastic and resection craniotomy
10	Topographic anatomy of the facial region of the head	1.5 hours	To study the diagram of the course of the branches of the trigeminal and facial nerves.	Draw the projection of the branches of the facial nerve and trigeminal nerve.
11	Topographic anatomy and operative surgery of the facial part of the head	1.5 hours	Study the route of the trigeminal and facial nerves. Study surgical procedures for cleft lip and cleft palate.	Complete a computer presentation on facial aesthetic surgery. Conduct a literature review on methods of drainage of purulent processes in the soft tissues of the face.
12	Topographic anatomy of the neck	1.65 hours	Study the diagram of the fascia of the neck by V.N. Shevkunenko. To study the topography of the parathyroid glands. To study the topographic anatomy of the larynx	Record the fasciae of the neck, blood supply, and innervation of the neck organs in your notebooks. Draw a diagram of the cellular spaces of the neck and the routes of spread of purulent processes.
13	Neck surgery	1.5 hours	To study the technique of tracheotomy, tracheostomy, conicotomy, tracheal intubation. Study the diagram of surgical approaches to the neck organs. Study the diagram of incisions for purulent processes in	Complete a computer presentation on layer-by-layer dissection of the thyroid gland. Draw the collateral circulation that occurs when the common carotid artery is ligated.

			the neck.	
14	Topographic anatomy of the chest and mediastinal organs	1.5 hours	To study the lymph drainage pattern from the mammary gland. Study the topographic anatomy of the lung: boundaries, division into lobes, zones, and segments. Study the topographic anatomy of the heart, including Grekov's zone.	Draw the projection lines of the lung lobes, Grekov's zones.
15	Surgery of the chest and mediastinal organs	1.5 hours	Study incision patterns for purulent mastitis. Study the Bulau pleural drainage pattern and the pleural puncture technique.	Draw extra- and transpleural approaches to the mediastinal organs Draw a diagram of aortocoronary bypass surgery.
16	Final lesson	1.5 hours	Preparation on theoretical issues (lectures, basic and additional literature, methodological recommendations, preparation of a report, essay.	Computer presentation. Solving situational problems
Total labor intensity in hours:		**24**	**16**	**8**
Topics for independent work in the 5th semester				
1	Topographic anatomy of the anterolateral abdominal wall. Surgical approaches to abdominal organs.	1.5 hours	Study the structure of the inguinal canal, femoral and umbilical rings.	Draw a diagram of the structure of the rectus abdominis sheath at different levels Draw a diagram of the structure of the white line of the abdomen.
2	Surgical anatomy of abdominal hernias.	1.5 hours	Study the scheme of inguinal canal plastic surgery according to Martynov, Girard-Spasokukotsky with Kimbarovsky, Bassini, Kukudzhanov sutures. Study the scheme of plastic surgery of the umbilical ring according to Sapezhko and Mayo, the femoral ring according to Bssini and Ruggi-Parlavecchio.	Draw a diagram of the umbilical ring plastic surgery according to Lexner
3	Topographic anatomy	1.5 hours	List the channels, pockets,	Describe the boundaries of

	of the abdominal cavity. Bursae, canals, and pockets. Examination of the abdominal cavity.		bags, and pockets of the abdominal cavity.	the foramen of Winslow. List the anatomical structures located within the hepatoduodenal ligament and their syntopy.
4	Topographic anatomy of the organs of the upper abdominal cavity: liver, gallbladder, stomach, duodenum.	1.5 hours	To study the blood supply to the stomach. To study the anatomical features of the superior mesenteric artery.	Describe the division of the liver into segments Draw a diagram of the formation of the portal vein.
5	Topographic anatomy of the lower abdominal organs: small and large intestines	1.5 hours	To study the anatomical features of the inferior mesenteric artery.	Draw a diagram of the blood supply to the small intestine. Draw a diagram of the blood supply to the large intestine.
6	Mastering practical skills in organ-complex surgery: intestinal sutures, the first stage of small bowel resection – mobilization of the resected segment. Appendectomy. Colostomy. Artificial portocaval anastomoses.	1.5 hours	To study the sequence of surgical actions during appendectomy.	Describe the classification of intestinal sutures Draw a diagram of small intestine resection and types of interintestinal anastomoses
7	Acquisition of practical competencies in organ complexes: resection of the small intestine, formation of a stump according to Doyen, formation of an interintestinal anastomosis of the “side to side” type.	1.5 hours	To study the sequence of stump formation according to Doyen. Interintestinal anastomosis of the "side-to-side" type.	Draw a diagram of stump formation according to Doyen. Interintestinal anastomosis of the "side-to-side" type.
8	Acquisition of practical competencies in organ complexes: resection of the small intestine, formation of interintestinal anastomosis of the “side to side” type, seromuscular sutures of Cherny, Lambert, Joly, Schmiden	1.5 hours	Study the seams: Czerny, Lambert, Joly, Schmiden.	Draw a diagram of the final formation of an interintestinal 4-row anastomosis of the “side to side” type.

	sutures.			
9	Acquisition of practical competencies in organ complexes: resection of the small intestine, formation of an interintestinal anastomosis of the “end-to-end” type.	1.5 hours	To study the sequence of formation of an end-to-end anastomosis.	Draw a diagram of the final formation of an interintestinal 4-row end-to-end anastomosis.
10	Acquisition of practical competencies in organ complexes: gastrostomies according to Witzel, Toprover, and Stamm-Kader. Pyloroplasties. Gastric resections. Gastroenteroanastomoses.	1.5 hours	To study the surgical technique of gastrostomy, gastric resection and gastroenteroanastomosis.	Draw the diagrams of gastric resection (B-1, B-2), Hofmeister-Finsterer)
11	Acquisition of practical competencies in organ complexes: liver surgery, cholecystectomy, Kuznetsov-Pensky hemostatic sutures, endoscopic surgery on abdominal organs.	1.5 hours	To study the surgical technique of applying hemostatic sutures to the liver.	Draw a diagram of the liver sutures
12	Topographic anatomy of the lumbar region and retroperitoneal space. Fasciae and cellular spaces of the retroperitoneal region.	1.5 hours	To study the diagram of the cellular spaces of the retroperitoneal region (Stromberg diagram)	Draw a diagram of the blood supply to the kidney.
13	Surgical interventions of retroperitoneal organs: kidneys, ureters, sympathectomy.	1.5 hours	To study the access diagram to the organs of the retroperitoneal space	Prepare a computer presentation on surgical approaches to the kidney, sympathetic trunk, aorta, and inferior vena cava.
14	Topographic anatomy of the pelvis and perineum	1.5 hours	To study the blood supply to the uterus and ovaries	Draw a diagram of how a cystostomy is performed. Draw the structure of the pelvic diaphragm.
15	Pelvic surgery: uterine and adnexal procedures, bladder, prostate, and testicular procedures. Endoscopic kidney, ureter, uterine, and	1.5 hours	To study surgical interventions on the uterus and its appendages in case of ectopic pregnancy	Prepare a literature review on bladder and testicular surgeries

	adnexal procedures. Surgeries for paraproctitis and hemorrhoids.			
16	Final lesson	1.5 hours	Preparation on theoretical issues (lectures, basic and additional literature, methodological recommendations, preparation of a report, essay.	Computer presentation. Solving situational problems.
Total labor intensity in hours:		24	16	8
Total labor intensity (in hours)			48	

DHomework is considered an integral part of the learning process. It is necessary to expand and deepen the material covered in lectures and practical assignments, as well as to develop independent thinking and creativity skills. By presenting their homework (papers) and defending them in practical classes, students master the skills of publicly presenting their work and develop the ability to conduct academic discussions.

Students can choose the topic of their papers independently in consultation with their teacher or from the list below:

1. Modern technologies in endoscopic surgery;
2. Surgical interventions using robotics;
3. Errors, dangers and complications in modern high-tech operations;
4. Laparoscopic appendectomy – advantages and disadvantages;
5. Laparoscopic cholecystectomy in combination with surgery through a mini-access;
6. Professional stress in the work of a surgeon, ways to overcome it;
7. Methods of virtual environment in mastering practical skills in surgery;
8. Modern operations on peripheral vessels.
9. Ways to optimize the training process in surgery using modern simulation trainers;
10. Single-port laparoscopic cholecystectomy;
11. Transgastric cholecystectomy;
12. Laparoscopic hysterectomy: indications, contraindications, technique.

2.7 Research (project) work of students

Student research (project) work is a mandatory part of the course and is aimed at comprehensively developing students' universal and general professional competencies. Research work involves studying specialized literature and other scientific and technical information on the achievements of domestic and international science and technology in the relevant field of study, participating in scientific research, and more. Students determine the topics for their research independently or in consultation with their instructor.

List of recommended research paper topics:

1. Modern technologies in surgical treatment of chest organs.
2. Features of the use of endoscopic surgeries on abdominal organs.
3. Computer modeling of possible complications after surgical operations.
4. A study of the influence of allografts and autodermal grafts on the prognosis of surgical treatment of abdominal hernias.

5. Study of remote results in hand microsurgery.

Criteria for assessing students' research work:

- The research results in the report are presented in detail, the specialized literature is well-researched, and scientific and technical information on the achievements of domestic and foreign science and technology in the relevant field of knowledge is studied – “passed”.
- The material on the research results in the report is not presented accurately enough, the specialized literature is poorly studied, the scientific and technical information on the achievements of domestic and foreign science and technology in the relevant field of knowledge is not studied - "failed".

III. EDUCATIONAL, METHODOLOGICAL AND INFORMATIONAL SUPPORT DISCIPLINES

3.1. BASIC LITERATURE

1. Lopukhin, Yu. M. Topographic anatomy and operative surgery: textbook. - In 2 volumes / ed. Yu. M. Lopukhina. - 3rd ed. , rev. - Moscow: GEOTAR-Media, 2019. - T. 1. - 832 p. : ill. - 832 s. - ISBN 978-5-9704-5177-9. - Text: electronic (date of access: 05/03/2021). - Access mode: by subscription.
http://www.studmedlib.ru/book/ISBN9785970451779.html
2. Lopukhin, Yu. M. Topographic anatomy and operative surgery: textbook. - In 2 volumes / ed. Yu. M. Lopukhina. - 3rd ed. , rev. - Moscow: GEOTAR-Media, 2019. - T. 2. - 592 p. : ill. - 592 s. - ISBN 978-5-9704-5178-6. - Text: electronic (date of access: 05/03/2021). - Access mode: by subscription.
http://www.studmedlib.ru/book/ISBN9785970451786.html
3. Kagan, I. I. Topographic anatomy and operative surgery: in 2 volumes - V. 1.: textbook / edited by I. I. Kagan, I. D. Kirpatovsky. - 2nd ed., suppl. - Moscow: GEOTAR-Media, 2021. - 512 p. - ISBN 978-5-9704-5984-3. - Text: electronic (date accessed: 05/03/2021). - Access mode: by subscription.
http://www.studmedlib.ru/book/ISBN9785970459843.html
4. Kagan, I. I. Topographic anatomy and operative surgery: Volume 2: textbook / under ed. Kagan I. I., Kirpatovsky I. D. - Moscow: GEOTAR-Media, 2021. - 576 p. - ISBN 978-5-9704-5985-0. - Text: electronic (accessed: 03.05.2021). - Access mode : by subscription.
http://www.studmedlib.ru/book/ISBN9785970459850.html

3.2. ADDITIONAL REFERENCES:

1. Nikolaev, A. V. Topographic anatomy and operative surgery: textbook / A. V. Nikolaev. - 3rd ed. , rev. and additional - Moscow: GEOTAR-Media, 2019. - 736 p. : color ill. –

736 pages. - ISBN 978-5-9704-5137-3. - Text: electronic (accessed: 03.05.2021). – Access mode: by subscription.
http://www.studmedlib.ru/book/ISBN9785970451373.html
2. Dydykin, S. S. Topographic anatomy and operative surgery: workbook. In 2 parts. Part I / ed. S. S. Dydykina, T. A. Bogoyavlenskaya. - Moscow: GEOTAR-Media, 2021. - 120 p. : ill. - 120 s. - ISBN 978-5-9704-5995-9. - Text: electronic (date reversed) (date: 03.05.2021). - Access mode: by subscription.
http://www.studmedlib.ru/book/ISBN9785970459959.html

3. Dydykina, S. S. Topographic anatomy and operative surgery: workbook. In 2 parts. Part II / ed. S. S. Dydykina, T. A. Bogoyavlenskaya. - Moscow: GEOTAR-Media, 2021. - 112 p. - ISBN 978-5-9704-5996-6. - Text: electronic (date of access: 03.05.2021). - Access mode: by subscription. http://www.studmedlib.ru/book/ISBN9785970459966.html
4. Kagan, I. I. Topographic anatomy and operative surgery in terms and concepts yah, classifications: textbook / Kagan I. I., Chemezov S. V. - Moscow: GEOTAR-Media, 2019. - 176 p. - ISBN 978-5-9704-5106-9. - Text: electronic (date of access: 03.05.2021). - Access mode: by subscription. http://www.studmedlib.ru/book/ISBN9785970451069.html

3.3 Educational and methodological support for the discipline, prepared by the staff of the Phaedra:

Electronic and digital technologies:

1. **Online course in the discipline**"Topographic Anatomy and Operative Surgery" at the EIS FSBEI HE Amur State Medical Academy
   Access mode for 4th semester:https://educ-amursma.ru/course/view.php?id=93
   Access mode for 5th semester:https://educ-amursma.ru/course/view.php?id=93

Characteristics of modules in the electronic information and educational course

Educational	Controlling
Theoretical (lecture) material	Methodological recommendations for students on independent extracurricular work.
Methodological recommendations for students for practical classes. Methodological recommendations for practical classes.	Final knowledge assessment tests.

3.4. Equipment used for the educational process

No. p/p	Name	Quantity	Form Uses
	Lecture halls and auditorium No. 6		
1 2	Video projector Epson EMR-XZ ACER laptop	1	Demonstration of lecture materials, scientific videos
3	Video complex (VCR, TV)	1	Demonstration of materials from practical classes, educational and scientific videos
4	Personal computers	3	Access to educational resources during students' independent work, working with multimedia materials during practical classes
	Scientific laboratory		
5	Binocular microscope	1	Scientific work with microscopic objects
6	Slide microtome MS-2		
	Sec. halls, auditoriums 6,7,16,18		
7	Visual aids (tables)	more	At lectures and practical classes

		than 200	
8	Fixed macropreparations	About 200	At lectures and practical classes
9	Electric knives	2	During practical classes
	Experimental operating room		
10	The RO-6 artificial lung ventilation apparatus	1	Animal surgery
11	Anesthesia machine "Polinarkon-2"	1	Animal surgery
12	X-ray machine mobile 12P5	1	Animal surgery
13	Surgical aspirator OX	1	Animal surgery
14	Steam sterilizer VK-75	1	Animal surgery
15	Thermostat TS-80m	1	Animal surgery

3.5. Professional databases, information and reference systems, electronic educational resources.

Item No. p.	Resource name	Resource Description	Access	Resource address
Electronic library systems				
1.	"Consultant student. Electronic library medical university"	For students and faculty of medical and pharmaceutical universities. Provides access to electronic versions of textbooks, teaching aids and periodicals.	library, individual access	http: //www .studmedlib.ru/
2.	"Consultant doctor" Electronic medical library.	The materials posted in the library have been developed leading Russian experts on the basis of modern scientific knowledge (evidence-based medicine). The information has been prepared taking into account the position of scientific practical medical society (world, European and Russian) according to the relevant specialties. All materials have passed mandatory independent review	library, individual access	http://www.rosmedlib.ru/cgi-bin/mb4x
3.	PubMed	A free search system in the largest medical bibliographic database, MedLine. It documents medical and biological articles from a special literature, and also provides links to full-text articles.	library, free access	https://pubmed.ncbi.nlm.nih.gov/
4.	Oxford Medicine Online	A collection of Oxford Press medical publications, bringing together over 350 titles into a single, cross-searchable resource. Publications include The Oxford	library, free access	http://www.oxfordmedicine.com

		Handbook of Clinical Medicine and The Oxford Textbook of Medicine, the electronic versions of which are continually updated.		
5.	Biology Knowledge Base human	Reference information onphysiology,cellular biology,genetics,biochemistry,immunology,pathologies. (ResourceInstitute of Molecular Genetics of the Russian Academy of Sciences.)	library, free access	http://humbio.ru/
6.	Medical on-online library	Free reference books, encyclopedias, books, monographs, abstracts, English-language literature, tests.	library, free access	http://med-lib.ru/
		Information systems		
7.	Russian Medical Association	A professional internet resource. Purpose: to facilitate the effective professional activities of medical personnel. Contains the charter, personnel, structure, rules for joining, and information about Russian Medical Union	library, free access	http://www.rmass.ru/
8.	Web medicine	The website provides a directory of professional medical resources, including links to the most authoritative subject-specific websites, journals, societies, as well as useful documents and programs. The website is intended for physicians, students, medical university staff, and scientific institutions.	library, free access	http://webmed.irkutsk.ru/
		Databases		
9.	World Health Organization	The site contains news, statistics on countries that are members of the World Health Organization, fact sheets, reports, WHO publications, and much more.	library, free access	http://www.who.int/ru/
10.	Ministry of Science and Higher Education Russian Federation	The website of the Ministry of Science and Higher Education of the Russian Federation contains news, newsletters, reports, publications, and much more.	library, free access	https://www.minobrnauki.gov.ru/
11.	Ministry of Education of the Russian Federation Federations	The website of the Ministry of Education of the Russian Federation contains news, newsletters, reports, publications, and much more.	library, free access	https://edu.gov.ru/
12.	Federal portal Russian Education	A single window for access to educational resources. This portal provides access to textbooks on all areas of medicine and healthcare.	library, free access	http: //www.edu.ru/ http://window.edu.ru/catalog/?prubr=2.2.81.1
		Bibliographic databases		
13.	Database "Russian Medicine"	Created at the Central Scientific and Methodological Library, it covers the entire collection, starting in 1988. The	library, free access	http://www.scsml.rssi.ru/

		database contains bibliographic descriptions of articles from domestic journals and collections, dissertations and their abstracts, as well as domestic and foreign books, collections of institute proceedings, conference materials, etc. Thematically, the database covers all areas medicine and related fields of biology, biophysics, biochemistry, psychology, etc.		
14.	eLIBRARY.RU	A Russian information portal in the fields of science, technology, medicine, and education, containing abstracts and full texts of over 13 million scientific articles and publications. Electronic versions of over 2,000 Russian scientific and technical journals are available on the eLIBRARY.RU platform, including including more than 1000 open access journals	library, free access	http://elibrary.ru/defaultx.asp
15.	Electronic Library Portal dissertations	Currently, the Electronic Library of Dissertations of the Russian State Library contains more than 919,000 full texts of dissertations and abstracts.	library, free access	http://diss.rsl.ru/?menu=disscatalog/
16	Medline.ru	Biomedical portal for specialists. Biomedical journal. Last updated February 7 2021	library, free access	http://www.medline.ru

3.6. Licensed and freely distributed software used in the educational process.

No. p/p	List of software (commercial software products)	Details of supporting documents
1	MS Windows 7 Pro operating system	License number 48381779
2	Operating system: MS Windows 10 Pro, MS Office	AGREEMENT No. 142 A dated December 25, 2019
3	MS Office	License numbers: 43234783, 67810502, 67580703, 64399692, 62795141, 61350919
4	Kaspersky Endpoint Security for Business Advanced	Agreement No. 977 po/20 from 12/24/2020
5	1C: PROF University	LICENSE AGREEMENT No. 2191 of October 15, 2020
6	1C: PROF Library	LICENSE AGREEMENT No. 2281 of November 11, 2020

List of freely distributed software

No. p/p	List of freely distributed software	Links to the license agreement
1	Google Chrome	Freely distributed Distribution conditions: https://play.google.com/about/play-terms/index.html
2	Yandex Browser	Freely distributed License Agreement for the Use of Yandex Browser Software https://yandex.ru/legal/browser_agreement/
3	Dr.Web CureIt!	Freely distributed License Agreement: https://st.drweb.com/static/new-www/files/license_CureIt_ru.pdf
4.	OpenOffice	Freely distributed License: http://www.gnu.org/copyleft/lesser.html
5.	LibreOffice	Freely distributed License: https://ru.libreoffice.org/about-us/license/

3.7. Resources of the information and telecommunications network "Internet"

- Library of the Amur State Medical Academy:https://amursma.ru/obuchenie/biblioteki/biblioteka-amurskoy-gma/
- Electronic Library System "Student Consultant",http://www.studmedlib.ru//ru/index.html

- Electronic Library System "University Library Online" http:||www|biblioclub|ru,

- SAC Amur State Medical Academy (distance learning, control)
https://educ-amursma.ru/course/view.php?id=93

IV. ASSESSMENT TOOLS FUND

4.1. Tasks of current (input, initial, output) and final control

4.1.1. Tasks of incoming inspection

Test assignments are located in the Moodle system.
Access mode for 4th semester:https://educ-amursma.ru/course/view.php?id=93
Total number of tests – 100
(choose one correct answer)

1	***The walls of the bony pelvis include all formations except:*** 1. Sacrum 2. Lumbar spine 3. Iliac bones 4. Ischial bones 5. Pubic bones **6.** coccyx
2	***There are openings in the pelvis:*** 1. Large sciatic muscles 2. Small sciatic muscles 3. Superficial inguinal (rings) 4. Locking **5.** Deep femoral (rings)
3	***In the pelvis, the following fascia layers are distinguished:*** 1. Parietal **2.** Visceral **3.** Retroperitoneal

Answer key: 1-2; 2-1,2,4; 3-1,2

4.1.2. Test tasks for final assessment (with standard answers)

Test assignments are located in the Moodle system.
Access mode for 4th semester:https://educ-amursma.ru/course/view.php?id=93
Total number of tests – 100
(choose one correct answer)

1	***Name the anatomical structures passing through the suprapiriform foramen:*** 1. Superior gluteal nerve 2. Inferior epigastric artery 3. Ilioinguinal nerve 4. Superior gluteal artery and vein **5.** Posterior femoral cutaneous nerve
2	***Name the anatomical structures passing through the infrapiriform foramen:*** 1. Sciatic nerve 2. Inferior gluteal neurovascular bundle 3. Obturator nerve 4. Posterior femoral cutaneous nerve 5. Pudendal neurovascular bundle **6.** External cutaneous nerve of the thigh
3	***The group of superficial muscles of the pelvis (ischiocavernous, bulbospongiosus,***

	superficial transverse) is located in the pelvic floor: 1. Peritoneal 2. Subperitoneal **3.** Retroperitoneal (space) **4.** Subcutaneous

Answer standards: 1-1,4; 2-1,2,4,5; 3-4.

4.1.3. Tfinal assessment test assignments (with sample answers)

Test assignments are located in the Moodle system.
Access mode for 4.5 semesters:https://educ-amursma.ru/course/view.php?id=93

Total number of tests – 100

Choose one correct answer

1. Which nerve can be damaged in a fracture of the surgical neck of the humerus?
a) axillary nerve;
b) nervus medianus;
c) musculocutaneous nerve;
d) radial nerve;
d) nervusulnaris.
Answer: a)
2. Indicate what position the upper limb takes when the radial nerve in the upper third of the shoulder is damaged:

a) “the hand of the obstetrician”;

b) "clawed paw";

c) "monkey brush";

d) "beggar's hand";

d) "whip".

Answer: d)
3. Which nerve can be damaged when opening the posterior shoulder joint?

a) nervus axillaris;

b) nervus medianus;

c) radial nerve;

d) nervus cutaneus brachii medialis;

d) musculocutaneous nerve.

Answer: a)
4. In which area of the head should craniotomy be performed to ligate the middle meningeal artery?

a) in the Shipo triangle;

b) in the temporal region;

c) in the frontal region;

d) in the parietal region;

d) in the occipital region.

Answer: b)

5. What is used as an anatomical landmark during patent ductus arteriosus surgery?

a) third intercostal;

b) the place where the left recurrent nerve branches off from the vagus;

c) small visceral;

d) large visceral;

d) sympathetic trunk.

Answer: b)

4.2. Situational tasks of final control (with standard answers)

1. When determining the projection point on the skin for pericardial puncture using the Larrey method, the physician was unable to palpate the patient's xiphoid process (underdevelopment of the process, excessive adipose tissue, edema). Indicate what additional landmarks can be used to determine the projection point for pericardial puncture.

Answer: Additional landmarks may include: the edge of the left costal arch.

2. When performing a pericardial puncture using the Larrey technique with the patient lying down, only a small amount of exudate was removed. When the patient was moved to a semi-sitting position, the syringe quickly filled with fluid. Indicate in which parts of the pericardium fluid may accumulate depending on the patient's position.

Answer: Exudative fluid accumulates in all pericardial sinuses. When the patient is in a semi-sitting position, the fluid moves into the deepest anterior inferior pericardial sinus.

3. A patient undergoes a pericardial puncture using the Larrey technique. As the needle is inserted through the diaphragm and the inferior wall of the pericardium, the tip of the needle hits bone. Indicate how to change the needle direction to open the pericardial cavity.

Answer: The needle has entered the inner surface of the sternum. It should be retracted downward, then directed posteriorly and medially, and advanced upward until it punctures the inferior wall of the pericardium.

4. A patient with a chest injury underwent a vagosympathetic block. The patient's condition improved. The surgeon drew the students' attention to facial flushing on the side of the block, as well as sunken eyes, pupil constriction, and drooping of the upper eyelid (Claude-Bernard-Horner syndrome). Indicate whether these symptoms can be related to the vagosympathetic block.

Answer: Claude-Bernard-Horner syndrome is observed when the sympathetic innervation of the eye and the perpendicular sympathetic plexuses of the vessels of the head are switched off.

5. A patient underwent a lower tracheostomy for asphyxia. However, after dissecting the tracheal rings and inserting a tracheostomy cannula, air was not flowing into the trachea. Therefore, the surgeon removed the cannula and made an additional tissue incision deep within the wound. After this, breathing through the cannula was established. Indicate what error in surgical technique was made and how it was corrected during the procedure.

Answer: When the tracheal wall was cut, the mucous membrane was not opened, but was peeled away from the inner surface into the lumen of the trachea, and a tracheostomy tube was inserted into this gap.

4.3 List of practical skills that a student should have after mastering the discipline.

1. Perform a gastrostomy using Toprover (one of the stages)
2. Tie a simple (women's) knot by placing one interrupted suture across the skin wound
3. Suture the marginal wound of the liver with the Kuznetsov-Pensky suture
4. Perform a Witzel gastrostomy (one of the stages)
5. Perform conduction anesthesia of the finger according to Lukashevich-Oberst
6. Demonstrate in practice how to properly use a scalpel when dissecting skin (separate the skin)
7. Perform conduction anesthesia of the metacarpus according to Brown-Usoltseva
8. Demonstrate in practice how to use the Bilroth hemostatic clamp (apply a clamp to the wound on the subcutaneous tissue vessel)
9. Perform a gastrostomy according to Stamm-Kader (one of the stages)
10. Perform an appendectomy on the complex (on appendicisepiploici)
11. Apply single U-shaped sutures to the muscle wound
12. Resect a segment of the small intestine (one of the stages)
13. Demonstrate the Kulenkampf brachial plexus block technique.
14. Apply Albert's suture
15. Perform a mental nerve block
16. Suture the puncture wound of the small intestinal wall
17. Puncture the shoulder joint
18. Puncture the knee joint
19. Place a continuous suture over the muscle wound
20. Remove the interrupted suture
21. Perform a pleural puncture for hydrothorax
22. Perform plastic surgery on the cadaver (apply two sutures) of the anterior wall of the inguinal canal according to Martynov's method
23. Separate the skin (the length of the skin wound is 6-7 cm.)
24. Perform plastic surgery on the cadaver (apply two sutures) of the posterior wall of the inguinal canal along Bassini
25. Place a Schmieden suture on the small intestine
26. Puncture the ankle joint
27. Perform an infraorbital nerve block
28. Perform a side-to-side interintestinal anastomosis (one of the stages)
29. Perform plastic surgery on the cadaver (apply 2 sutures) of the anterior wall of the inguinal canal Girard-Spasokukotsky method with Kimbarovsky sutures
30. Disconnect the aponeurosis (fascia) up to 7 cm in length,
31. Perform a pericardial puncture according to Larrey
32. Show in practice how to properly use the needle holder when applying interrupted suture on the skin (apply a suture)
33. Apply a purse-string seromuscular suture
34. Perform a pleural puncture for pneumothorax
35. Suture a 2 cm long linear wound in the wall of the small intestine
36. Puncture the elbow joint
37. Place a Cherny suture on the small intestine
38. Perform a supraorbital nerve block
39. Apply Multanovsky's suture
40. Apply Albert's suture
41. Place a Joly suture on the inner lips of the anastomosis.

4.4.List of questions for the exam

1. Topography of the deep facial area. Cellular spaces, their relationship with the cellular spaces of adjacent areas
2. Retroperitoneal space topography. Technique and topographic-anatomical basis for perirenal (perinephric) novocaine block.
3. Gastric resection according to Bilroth-1 and Bilroth-2
4. Topography of the brachial plexus. The main peripheral nerves arising from the plexus and their innervation zones. Kulenkampf's brachial plexus block.
5. Topography of the portal vein. Main portocaval anastomoses and their significance in portal hypertension. Concept of unloading vascular anastomoses (splenorenal venous anastomosis).
6. Non-penetrating and penetrating wounds of the cranial vault. Principles of primary surgical treatment.
7. Topography of the main vascular-nerve bundle of the neck. Dissection of the phlegmon of the sheath of the vascular-nerve bundle.
8. Topography of the cellular spaces of the chest wall and cavity. Their connections with the cellular spaces of adjacent areas.
9. Topography of the fascia and cellular spaces of the pelvis.
10. Lumbar region. Musculofascial and vascular-nerve structures of this region. Potential sites for herniation.
11. Topography of the dorsal and plantar surfaces of the foot.
12. Mastoid trepanation. Indications, technique, and possible complications.
13. Pleural topography. Pleural puncture. Possible errors and complications.
14. Methods of temporary and permanent stopping of bleeding.
15. Sections of the colon. Indications and technique for creating an artificial anus. Fecal fistula and their fundamental differences.
16. Rectal topography. Features of the topographic and anatomical distribution of veins in the rectal wall. Portocaval anastomoses in this area. List surgical methods for hemorrhoids.
17. Flap amputation methods. Flap cutting technique taking into account skin contractility. Potential errors and complications.
18. Topography of the pancreas. Pancreatic surgery. Indications, approaches.
19. The applied significance of the works of V.N. Shevkunenko and his school in the development of the theory of typical and individual variability in the structure of organs and systems of the human body. Examples of individual variability.
20. Topography of the pharynx. Opening of retropharyngeal abscesses and peritonsillar phlegmons.
21. Features of the peritoneum in the pelvic cavity in men and women. Topography of the uterus and its appendages. Puncture of the posterior vaginal fornix.
22. Fascia and cellular spaces in light of the teachings of V.N. Shevkunenko. Pathways for the spread of purulent infection to adjacent areas.
23. Topography of the liver and its ligamentous apparatus. Surgical approaches to the inferior surface of the liver and gallbladder.
24. Topography of the heart. Projection of arterial and venous openings on the chest wall.
25. Features of primary surgical treatment of neck wounds.
26. Topographic and anatomical levels of the pelvis. Technique and topographic and anatomical basis for the intrapelvic block according to Shkolnikov-Selivanov-Tsodeks.
27. The concept of therapeutic and diagnostic manipulations: laparoscopy, fibroduodenoscopy, fibrogastroscopy, retroperitoneoscopy.
28. Topography of the lateral triangle of the neck. Fasciae, fascial sheaths, and vascular-nerve structures of this region. Technique for exposing the phrenic nerve.
29. List gastric surgeries. Gastric resection according to Hofmeister-Finsterer (instruments, possible complications)

30. Surgical technique for ectopic pregnancy and ovarian apoplexy. Errors and complications.
31. Topography of the urinary bladder. Prevesical cellular space. Its importance in bladder surgery (high bladder incision). Possible errors and complications.
32. Indications for the creation of gastrointestinal anastomoses. Technique of anterior gastroenterostomy (surgical instruments)
33. Topographical and anatomical classification of felons according to L.G. Fishman. Surgeries for purulent diseases of the fingers.
34. The operational stages of any surgical procedure. Key requirements for surgical access.
35. Topography of the prostate gland. Methods of examination. Surgical approaches to the gland. Adenomectomy.
36. Rules for finger abbreviation. Amputation and disarticulation at the interphalangeal and metacarpophalangeal joints. Autotransplantation of a toe to a hand.
37. N.I. Pirogov's theory of the sheath structure of fascia (list the main principles). The practical significance of this data in clinical practice.
38. Musculofascial beds of the hand. Incision for phlegmon of the hand.
39. Inguinal canal. Concept of direct and indirect inguinal hernias. Congenital and acquired inguinal hernias. Blockade of the spermatic cord and round ligament of the uterus according to Lorin-Epstein.
40. Topography of the cranial vault. Blockade of the nerve trunks innervating the soft tissues of the cranial vault.
41. Structure of the linea alba. Anatomical and physiological characteristics of longitudinal, median, oblique, transverse, and combined laparotomies.
42. The concept of the posterior mediastinum. Extrapleural and transpleural approaches to the organs of the posterior mediastinum.
43. Topography of the axillary region. Surgical approaches and ligation of the axillary artery.
44. Lymphatic drainage from the mammary gland. Topographic and anatomical classification of mastitis. Mammary gland incisions for different locations of mastitis.
45. Three-stage cone-circular amputation of the femur in the middle third. Analysis of the topography of the vascular and neurological structures in the femoral stump.
46. Four groups of veins of the head and their relationships with each other. Clinical significance of these relationships.
47. Principles of skin, tendon and vascular sutures. Vascular surgery (angiography).
48. Plastic surgery of the posterior wall of the inguinal canal. Bassini and Kukudzhanov methods.
49. Topography of the cellular spaces of the neck. Technique for incising phlegmons of the neck. Possible errors and complications.
50. Penetrating and non-penetrating wounds of the chest. Primary surgical treatment of chest wall wounds. Instrumentation.
51. The concept of kidney transplantation, plastic surgery on the ureters.
52. Topography of the small intestine. Indications, technique of jejunostomy, ileostomy.
53. Topography of the popliteal fossa, popliteal canal. Pathways for the spread of pus from the popliteal fossa.
54. Free and non-free skin grafting techniques. Indications, technique, and instrumentation.
55. Topography of the forearm (muscles, fascia, cellular spaces, vascular-nerve structures). Exposure of the ulnar, radial arteries and median nerve.
56. Indications for gastrostomy. Toprover gastrostomy. Possible errors and complications.
57. Bladder puncture technique. Indications, bladder wound suturing technique. Errors and complications.
58. Features of the topographic position of the vagus nerves on
Neck, posterior mediastinum, and abdominal cavity. Truncal and selective vagotomy. Technique.
59. Structure of the synovial sheaths of the tendons of the muscles of the anterior surface of the forearm and hand. Opening and drainage of the Pirogov's cellular space on the forearm. Topographic and anatomical justification.

60. Surgical approaches to the liver. Types of hemostatic sutures applied to liver wounds.
61. Topography of the elbow region.
62. Topographic and anatomical basis for vagosympathetic blockade according to A.V. Vishnevsky. Technique of its implementation. Possible errors and complications.
63. Appendectomy. Methods of treating the appendix stump. Possible errors and complications.
64. The concept of the peritoneal cavity, abdominal cavity, and abdominal cavity. Revision of the abdominal cavity and pelvic cavity.
65. Topography of the main vascular-nerve bundle of the shoulder. Exposure and ligation of the brachial artery.
66. The principle of performing strumectomy according to O.V. Nikolaev. Indications, possible errors and complications.
67. Concept of the mediastinum. Topography of the branches of the aortic arch, pulmonary artery, and pulmonary veins. Surgical approaches to the organs of the anterior mediastinum.
68. Topography of the rectum. Resection and amputation of the rectum.
69. Surgical approaches to bones. General principles of extra- and intramedullary osteosynthesis.
70. Cellular spaces of the cranial vault and their practical significance. Features of primary surgical treatment of wounds in this area.
71. Topography of the azygos and hemiazygos veins. Their role in collateral venous blood flow. Vascular surgery (puncture, suture, plastic surgery).
72. Sectoral resection of the mammary gland. Indications, errors, and possible complications.
73. Topography of the thoracic lymphatic duct. Indications and technique for catheterization of the thoracic lymphatic duct. Possible complications.
74. Topography of the retroperitoneal cellular spaces. Peritoneal and extraperitoneal approaches to the organs of the retroperitoneal space. Pathways of spread of purulent processes through the cellular spaces.
75. Femoral hernia surgeries. Specifics of surgery for strangulated femoral hernias. Potential errors and complications.
76. Topography of the ureters. Features of their topography in the male and female pelvic cavity.
77. Bone-plastic trepanation of the skull (indications, possible complications and instruments).
78. Abdominal puncture. Laparoscopy. Indications, technique, possible complications.
79. The role of N.I. Pirogov in the development of operative surgery and topographic anatomy.
80. Topography of the external base of the skull. Exit sites of the cranial nerves within the base of the skull.
81. Components of the mesentery. Topography of the root of the mesentery of the small intestine, transverse colon, and sigmoid colon. The peritoneum as a reflexogenic field and vascular reservoir. Physiological functions of the peritoneum.
82. Topography of the lumbar plexus. The main peripheral nerves arising from the plexus and their innervation zones. The technique of intrapelvic blockade according to Shkolnikov-Selivanov-Tsodeks.
83. Topography of the abdominal aorta and its branches. Inferior vena cava.
84. Pathways for the spread of purulent processes on the hands. Incisions for tendovagints, their topographic and anatomical justification.
85. Exposure of the main vascular-nerve bundle of the neck. Indicate which arteries participate in collateral circulation after ligation of the external carotid artery.
86. Topography of the kidney. Technique of nephrotomy, nephrostomy, nephrectomy.
87. Topographic and anatomical substantiation of local anesthesia methods (infiltration, case, conduction anesthesia).
88. Esophageal topography. Approaches to the cervical esophagus. Surgical methods for treating bleeding from esophageal varices.
89. Technique of surgery for hydrocele (Winkelmann, Bergman methods).
90. Topography of the knee joint. Pockets and inversions of the synovial membrane. Concept of arthroplasty and arthrodesis.

91. Topography of the spleen. Operations for spleen injuries.
92. Topography of the femoral and obturator canals. Technique for drainage of the prevesical cellular space according to McWhorter and Buyalsky.
93. Projection of the terminal branches of the trigeminal nerve. Technique of their block.
94. Topography of the thyroid and parathyroid glands.
95. Topography of the cecum and appendix. Variations of its position. Surgical approaches to the appendix. The concept of variable incisions.
96. Bone-plastic surgery. Bone-plastic amputation of the tibia according to N.I. Pirogov, of the femur - according to Gritti-Shimanovsky. Indications, surgical technique.
97. Topography of the colon.
98. Opening of phlegmons of the floor of the oral cavity and submandibular phlegmons.
99. General rules for performing arthrotomy. Approaches to the shoulder joint. Technique for performing resection of this joint (indications, surgical instrumentation).
100. Topography of the carotid triangle of the neck. Projection of the main vascular-nerve bundle of the neck onto the skin. Vagosympathetic block according to A.V. Vishnevsky.
101. Topography of the adrenal glands. Surgical approaches to them.
102. Dissection of the distal part of the foot, and the metatarsal (Lisfranc) joint. Indications, instruments.
103. Topography of the pelvic vascular and neurovascular structures. Formation and topography of the sacral plexus. Exit sites of nerves and vessels from the pelvic cavity.
104. Innervation and blood supply of the anterior abdominal wall. Structure of the rectus sheath. Transrectal and pararectal approaches to abdominal organs.
105. Tasks of topographic anatomy, operative surgery and the direction of their study.
106. Indications, technique of puncture and catheterization of the subclavian vein. Possible complications.
107. Topography of the stomach. Witzel gastrostomy technique. Instrumentation. Possible complications.
108. Methods of emergency surgical care in acute respiratory failure.
109. Topography of the medial malleolar canal. The importance of the malleolar canal in the spread of purulent processes in the foot and leg.
110. Topography of the small intestine. Indications and technique for bowel resection.
111. Operative methods of surgical treatment of purulent pleurisy (indications, technical complications, instruments).
112. Topography of the lung. Lung operations (pulmonectomy, lobectomy, segmentectomy).
113. Gastroenterostomy. Braun's technique for performing interintestinal anastomosis. The concept of the vicious circle of food movement during gastroenterostomy.
114. General rules for incision and drainage of abscesses. Specifics of treatment and incision of post-injection abscesses and phlegmons of the gluteal region.
115. Topography of the fascial compartments and neurovascular bundles of the leg. Approaches to the anterior and posterior tibial arteries.
116. Gastric surgery. Concept of pyloroplasty. Indications. Surgical technique. Possible errors and complications.
117. Concept of congenital, strangulated, and sliding inguinal hernias. Errors and complications arising during surgical treatment of hernias.
118. Topography of the duodenum.
119. Primary surgical care for heart wounds. Surgeries for ischemic heart disease (aorto-coronary bypass).
120. Topography of the pelvic diaphragm.
121. Exposure and ligation of the subclavian artery. List the arteries involved in collateral circulation after its ligation.
122. Topography of the superficial veins of the lower limb. Surgeries for varicose veins. Venesection.
123. Classification and surgical treatment of paraproctitis and rectal fistulas.

124. Weaknesses of the anterolateral abdominal wall. Topography of the inguinal canal. Methods of plastic surgery of the anterior wall of the inguinal canal.
125. Gallbladder surgery. Technique for performing cholecystectomy (indications, possible complications, instruments).
126. Joint resection (indications, technique, instrumentation). Features of joint resection in children.
127. Umbilical ring. Umbilical canal. Contents of the umbilical canal. Practical significance of these structures. Principles of umbilical ring repair for umbilical hernias (Mayo, Lexer, Sapezhko, Napalkov methods).
128. Topography of the femoral triangle and adductor canal. Technique of puncture and exposure of the femoral vessels.
129. General classification of amputations. Circular amputations. Analysis of the relationship of vascular, neuromuscular, and muscular structures in the stump after amputation of the middle third of the shoulder.
130. Topography of the subclavian region.
131. The upper floor of the abdominal cavity. Its division into sections. The bursae of the upper floor.
132. Topography of the diaphragm. Diaphragmatic hernias.

APPROVED
at the meeting of the Department of
Anatomy and Operative Surgery
Protocol No. 8 dated May 14, 2026

Department Head _____ Yu. A. Shakalo

AMENDMENTS AND CHANGES TO THE WORKING CURRICULUM FOR THE DISCIPLINE «TOPOGRAPHIC ANATOMY AND OPERATIVE SURGERY» SPECIALTY 31.05.01 GENERAL MEDICINE FOR THE 2026-2027 ACADEMIC YEAR

1. The volume of contact work in the discipline has been reduced from 216 to 192.
2. The volume of independent work in the discipline has been increased from 108 to 132.
3. **Clause 2.1. "Scope of the discipline and types of academic work" of Section 2 shall be set out as follows:**

Types of educational work	Total hours	Semesters	
		4	5
Lectures	20	10	10
Practical classes	64	32	32
Independent work of students	60	30	30
Exam	36		36
Total labor intensity in hours	180	72	108
Total workload in credit units	5	2	3

4. **Clause 2.2. "Thematic plan of lectures and their summary" of section 2 shall be set out as follows:**

Item No.	Topics and content of lectures	Codes of the formed competencies	Labor intensity (hours)
1.	INTRODUCTION TO THE DISCIPLINE History of the departments of operative surgery and topographic anatomy in Russia. The contributions of Russian scientists to the development of topographic anatomy and operative surgery as an independent discipline. Subject content, main areas of study in topographic anatomy. Concept of surgical anatomy.	UK-1; UK-6; UK-8 OPK-10; OPK-11	2
2.	TOPOGRAPHIC ANATOMY AND OPERATIVE SURGERY OF THE EXTREMITIES. FASCIA AND CELLULAR SPACES OF THE EXTREMITIES Patterns of connective tissue structure in the extremities in applied applications (spread of purulent processes, case anesthesia, etc.). Morphofunctional characteristics of subcutaneous and interfascial tissue. Basic requirements and principles of surgical approaches for purulent processes. Contributions of Russian scientists to the development of purulent surgery principles.	UK-1; UK-6; UK-8 OPK-10; OPK-11	2
3.	OPERATIVE SURGERY OF VASCULAR AND NERVES History of vascular surgery and nerve trunk surgery. Techniques of vascular suturing according to KORELL, SCHUMACHER-LOEVENBERG, BRIAND-JOBOULEY, mechanical vascular suturing. Indications for vascular suturing. Radiocontrast methods of vascular examination. Surgeries on the main arteries and aorta. Surgeries on peripheral nerves. Practical significance of these surgical interventions. Puncture and catheterization of the subclavian vein, possible errors and complications. Ballooning, endoscopic examination. Use of laser radiation in the treatment of vascular diseases.	UK-1; UK-6; UK-8 OPK-10; OPK-11	2

4.	AMPUTATIONS AND EXARTICULATIONS. PRINCIPLES OF EXTRA- AND INTRAMEDULLARY OSTEOSYNTHESIS Topographic and anatomical justification for approaches to limb bones. Modern methods of extramedullary and intramedullary osteosynthesis. Issues in modern joint and limb prosthetics.	UK-1; UK-6; UK-8 OPK-10; OPK-11	2
5.	TOPOGRAPHIC ANATOMY AND OPERATIVE SURGERY OF THE HEAD The theory of the cellular spaces of the head. Features of the topographic and anatomical distribution of arterial vessels and nerve trunks of the head. Modern topographic and anatomical classification of veins of the head (extra and intracranial, intraosseous and veins of the facial region of the head). The role of venous formations in the spread of acute inflammatory processes in the head. Topography of regional lymph nodes of the head. Principles of primary surgical treatment of wounds of the soft tissues of the head, open fractures of the bones of the skull. The concept of osteoplastic and resection trepanation of the skull. Topographic and anatomical justification for blockade methods of the branches of the trigeminal nerve. (Particular attention should be paid to the fact that most traumatic brain injuries occur in a state of intoxication). On the tasks of healthcare workers in the fight against drunkenness, alcoholism, and drug addiction.	UK-1; UK-6; UK-8 OPK-10; OPK-11	2
6.	TOPOGRAPHIC ANATOMY AND OPERATIVE SURGERY OF THE NECK ORGANS The concept of the muscular and visceral complexes of the neck. Cellular spaces of the neck. Superficial and deep venous formations. Projectional anatomy of large vascular formations (carotid arteries, jugular veins). Reflexogenic zones of the neck. Principles of choosing surgical approaches to neck organs during abscess drainage. Peculiarities of the relationship between the thyroid gland, parathyroid glands, and recurrent nerves. Topographic and anatomical rationale for vagosympathetic blockade according to A.V. VISHNEVSKY. Emergency surgical methods for treating asphyxia. Primary surgical treatment of penetrating and non-penetrating wounds of the neck.	UK-1; UK-6; UK-8 OPK-10; OPK-11	2
7.	SURGICAL ANATOMY OF THE CHEST Topographic and clinical characteristics of the mammary gland structure. Lymphatic drainage pathways from the mammary gland. Topographic and anatomical classification of mastitis. Topographic and anatomical justification for surgical incisions on the mammary gland for mastitis. Cellular spaces of the chest wall and thoracic cavity. Projectional anatomy of the pleura and pleural sinuses. Surgical anatomy of the lung and its root elements. Modern views on the division of the lungs into lobes and segments, and the significance of these data in the diagnosis and surgical treatment of pathological processes. Using the example of inflammatory processes in the mammary gland, apply the law of the philosophy of the transition from quantity to quality, and categories—quantity, quality, and measure. Modern methods of breast examination—ultrasound, mammography, etc.	UK-1; UK-6; UK-8 OPK-10; OPK-11	2
8.	CLINICAL AND TOPOGRAPHIC ANATOMY OF THE MEDISTINUM Division of the mediastinum into sections. Topographic anatomy of the mediastinal organs. Surgical anatomy of the esophagus. Topographic and anatomical segments of the esophagus. Features of the blood supply and innervation of the mediastinal organs. Reflexogenic zones. Current data on the regional lymph nodes of the thoracic cavity and lymphatic drainage pathways in light of their practical significance. Surgical approaches to the thoracic organs. Operative surgery of the lungs and bronchi. Heart surgery, the concept of artificial circulation. Surgery for ischemic heart disease. Modern classification of mediastinal divisions. Modern methods of coronary angiography and coronary artery bypass grafting.	UK-1; UK-6; UK-8 OPK-10; OPK-11	2
9.	SURGICAL ANATOMY OF THE ANTERIOR ABDOMINAL WALL Clinical boundaries and layered description of the anterolateral abdominal wall. Weaknesses. Topography of the inguinal and umbilical canals. Typical abdominal anatomy and its clinical significance. Features of blood supply, innervation, and lymph drainage from the anterolateral abdominal wall. Surgical approaches to abdominal organs and their topographic and anatomical justification. The concept of the abdominal press and its clinical significance. Using this material, demonstrate the dialectical unity of the categories "Form and Function" and "Form and Content" in morphology. Provide classic Calck points for laparoscopic minimally invasive surgery.	UK-1; UK-6; UK-8 OPK-10; OPK-11	2
10.	SURGICAL ANATOMY OF THE ABDOMINAL CAVITY. GENERAL PRINCIPLES OF SURGICAL OPERATIONS ON THE ORGANS OF THE GASTROINTESTINAL TRACT The concept of the abdominal cavity and the abdominal cavity. Division into layers. Anatomical and physiological features of the peritoneum. Bags, pockets, canals, pockets of	UK-1; UK-6; UK-8 OPK-10; OPK-11	2

	the peritoneum, and their clinical significance. Features and basic principles of operations on abdominal organs. Intestinal sutures, their main characteristics, types, topographic and anatomical substantiation of intestinal sutures. Principles of intestinal sutures of A. LAMBER, N. PIROGOV, V. MATESHUK, SCHMIDEN, PRIBRAM. Mechanical intestinal sutures. The operating principle of NZhKa, PKS, and other devices. Closed abdominal injuries. Social harm of drunkenness and alcoholism. Laparoscopic minimally invasive techniques of abdominal surgery.		
Total hours			20

5. **Clause 2.3. "Thematic plan of practical classes" of section 2 shall be presented as follows:**

Name of the topics of practical classes	Contents of practical classes	Codes of developed competencies and indicators of their achievement	Types of control	Labor intensity (hours)
Surgical instruments. Separation and fusion of tissues. Suture classification. Knots.	Justification of pain relief methods. Infiltration anesthesia according to A.V. Vishnevsky. Study of basic surgical instrumentation, instrument requirements, and rules for use. General principles of tissue separation and reattachment. Suture and knot tying techniques. Suture classification: interrupted, continuous, mattress, etc. Suture material and its brief characteristics. Practicing suture techniques for skin, muscle, fascia, and tendons. Individual, typical, and age-related features of the structure and topography of blood vessels. The contributions of V.N. Shevkunenko's school to this study. Arterial puncture sites for the extremities, with particular attention to the indications and technique for femoral artery puncture using the Seldinger method. Venous puncture sites in the extremities, venesection. Technique of percutaneous puncture and catheterization of the subclavian vein, indications for this procedure. Technique for exposing the great vessels of the upper and lower extremities, taking into account age-related characteristics of their topography. Vascular sutures – circular locking suture with three KARREL holders, two Morozova holders, three Polyantsev U-shaped holders, mechanical vascular suturing (demonstration of the ASC device). Requirements for vascular sutures. To introduce students to the operation of an electric defibrillator, an electric knife, endoscopes, and modern suturing equipment.	UK-1; UK-6; UK-8 OPK-10; OPK-11 ID UK-1.1. ID UK-1.2. ID UK-6.1. ID UK-6.3. ID UK-8.4. ID OPK-10.2. ID OPK-11.4.	Incoming inspection. Frontal survey, solving situational problems, working on a practical assignment, testing in the Moodle system	2
Topographic anatomy of the upper limb. Shoulder girdle. Scapular, subclavian, deltoid, and axillary regions.	Age-related features of the topography of these areas in childhood. External bony and muscular landmarks. Boundaries of the topographic and anatomical regions of the entire upper limb. Muscle groups and fascial sheaths of the vascular and nerve trunks of the subclavian region. Projection of these trunks onto the skin. Openings on the posterior wall of the axillary fossa.	UK-1; UK-6; UK-8 OPK-10; OPK-11 ID UK-1.1. ID UK-1.2. ID UK-6.1. ID UK-6.3. ID UK-8.4. ID OPK-10.2. ID OPK-11.4.	Frontal survey, solving situational problems, working on a practical assignment, current control, testing in the	2

	Topography of the vascular and neuronal structures passing through these openings. Cellular spaces of the shoulder girdle. Zonal innervation of the skin in the areas under study. The structural features of the shoulder joint and its relationship to surrounding anatomical structures. Layer-by-layer dissection of these areas.		Moodle system	
Topographic anatomy of the upper limb. Shoulder, cubital fossa, elbow joint, forearm	Layer-by-layer dissection of the forearm, elbow, forearm, and hand. Holotopy, syntopy, and skeletotopy of the main vascular-nerve bundles within these areas. Intermuscular grooves, canals, and their contents. Muscle compartments and muscle groups within these areas, and the innervation of the muscles within these compartments. Zonal innervation of the skin. Cellular spaces of the forearm. Using a specimen, study the relationship of the elbow joint and the surrounding anatomical structures. The formation and topography of the superficial and deep arterial arches. To study the pathways of pus dissemination in acute inflammatory processes in the forearm. Using the function of the upper limb as an example, to highlight the dialectical unity of the categories "Form and Function in Morphology."	UK-1; UK-6; UK-8 OPK-10; OPK-11 ID UK-1.1. ID UK-1.2. ID UK-6.1. ID UK-6.3. ID UK-8.4. ID OPK-10.2. ID OPK-11.4.	Frontal survey, solving situational problems, working on a practical assignment, current control, testing in the Moodle system	2
Topographic anatomy of the upper limb. Dorsal and palmar surfaces of the hand, fingers, wrist joint.	Layer-by-layer analysis of the palmar and dorsal surfaces of the hand. Formation and topography of the superficial and deep arterial arches. Branching of the median, radial, and ulnar nerves. The carpal tunnel and its contents. Structure of the synovial sheaths of the tendons of the hand muscles. Musculofascial and cellular spaces. Using preparations, study the relationship of the wrist joint to surrounding anatomical structures. The location of vessels and nerves along the fingers. Layer-by-layer dissection of these areas. Pathways for the spread of pus in acute inflammatory processes. Using the function of antagonist muscles as an example, analyze the law of philosophy “The Law of Unity and Struggle of Opposites.”	UK-1; UK-6; UK-8 OPK-10; OPK-11 ID UK-1.1. ID UK-1.2. ID UK-6.1. ID UK-6.3. ID UK-8.4. ID OPK-10.2. ID OPK-11.4.	Frontal survey, solving situational problems, working on a practical assignment, current control, testing in the Moodle system	2
Topographic anatomy of the lower limb. Gluteal region, hip joint, thigh.	Checking the acquisition of competencies (testing, interviews on theoretical issues, defense of creative work). Incisions for phlegmon and purulent leaks in these areas External bony and muscular landmarks and their characteristics in childhood. Boundaries of the topographic and anatomical regions of the lower limb. Layer-by-layer analysis of the gluteal region, anterior and posterior thigh. Topography of the femoral neurovascular bundle, deep femoral artery, and great saphenous vein. Muscle groups and fascial compartments, their innervation. Femoral, obturator, and femoropopliteal canals, as well as the femoral triangle. Zonal innervation of the skin. Position of the hip joint in relation to surrounding anatomical structures. Diagnostic value of the Roser-Nelaton line. Layer-by-layer dissection of these areas.	UK-1; UK-6; UK-8 OPK-10; OPK-11 ID UK-1.1. ID UK-1.2. ID UK-6.1. ID UK-6.3. ID UK-8.4. ID OPK-10.2. ID OPK-11.4.	Frontal survey, solving situational problems, working on a practical assignment, current control, testing in the Moodle system	2

	Cellular spaces in these areas. Possible routes of pus dissemination during acute inflammatory processes in these areas. Basic rules for making incisions for drainage of purulent processes in the gluteal region and various muscular-fascial compartments of the thigh. Using this example, we will analyze the law of transition from quantity to quality.			
Topographic anatomy of the lower limb. Leg, foot, knee and ankle joint areas.	Layer-by-layer analysis of the popliteal fossa, anterior and posterior sections of the leg, dorsal and plantar surfaces of the foot. Muscle groups and fascial sheaths, their innervation. Topography of the subcutaneous venous vessels and nerves of the leg and foot. Topography of the Jobert fossa, crural-popliteal canal, superior and inferior musculofibular canals, and malleolar canal. Their contents. Cellular spaces of the areas under study. Zonal innervation of the skin of the leg and foot. Layer-by-layer dissection of these areas. Pathways for pus spread during acute inflammatory processes in these areas.	UK-1; UK-6; UK-8 OPK-10; OPK-11 ID UK-1.1. ID UK-1.2. ID UK-6.1. ID UK-6.3. ID UK-8.4. ID OPK-10.2. ID OPK-11.4.	Frontal survey, solving situational problems, working on a practical assignment, current control, testing in the Moodle system	2
Operative surgery of purulent processes (panaritiums, phlegmons of the upper and lower extremities).	Basic principles and rules for incisions in purulent processes (panaritiums, phlegmons of the hand, foot, and other parts of the limb). Surgical instruments used. To review the technique of performing local conduction anesthesia according to Lukashevich-Oberst, focusing on the methods of choosing anesthesia for extremity surgery in children. Particular attention will be paid to the rules for draining purulent cavities (of various locations). Review the routes of spread of purulent processes in the upper and lower extremities. Pay attention to the clinically important connections of the external and middle fascial spaces through the lumbrical canals with the dorsal surface of the second, third, fourth, and fifth fingers, and through the carpal tunnel with Pirogov's space.	UK-1; UK-6; UK-8 OPK-10; OPK-11 ID UK-1.1. ID UK-1.2. ID UK-6.1. ID UK-6.3. ID UK-8.4. ID OPK-10.2. ID OPK-11.4.	Frontal survey, solving situational problems, working on a practical assignment, current control, testing in the Moodle system	2
Joint surgeries. Bone surgeries. Amputations and disarticulations.	Practice (following all aseptic and antiseptic precautions) the technique of puncture of the shoulder, elbow, wrist, hip, knee, and ankle joints. Understand the concept of arthrotomy. Vulpius arthrodesis of the shoulder joint. Surgical approaches to bones. Techniques for performing extra- and intramedullary osteosynthesis. Indications and procedures for performing disarticulation at various levels of the limb. Learn the technique for disarticulating the second and fifth toes using the Farabeuf method, the third and fourth toes using the Luppi method, and the toes using the Garanzho method. Circular and flap amputations. Bone plastic surgery using the example of tibia amputation according to N.I. Pirogov and femur amputation according to GRITTI-	UK-1; UK-6; UK-8 OPK-10; OPK-11 ID UK-1.1. ID UK-1.2. ID UK-6.1. ID UK-6.3. ID UK-8.4. ID OPK-10.2. ID OPK-11.4.	Frontal survey, solving situational problems, working on a practical assignment, current control, testing in the Moodle system	2

	SHIMANOVSKY. To draw students' attention to the basic principles of limb amputation and reamputation in children (V.I. Razumovsky, 1889). Theoretical interview on the module "Topographic anatomy and operative surgery of the upper and lower limbs".			
Topographic anatomy and operative surgery of the brain region of the head.	Division of the skull into the cranial and facial regions. Features of the cranial bone structure in childhood. Topography of the temporal, mammillary, and fronto-occipital regions. The mammillary process region, its structural variations, Shipau's triangle, and its practical significance. Layers of the cranial vault, cellular spaces of these regions, blood supply and innervation, and lymphatic drainage. Topography of the external and internal skull base. Exit sites of the 12 pairs of cranial nerves. Topography of the meninges and their relationship with bone tissue in childhood. Venous sinuses of the dura mater and their topography in children. The Krenlein-Bryusova scheme and its practical significance. Surgical instrumentation used in head surgery. Craniotomy. To draw students' attention to the contributions of Russian scientists to the development of Russian neurosurgery (V.M. Bekhterev, A.L. Polenov, N.N. Burdenko, A.I. Arutyunov, A.P. Romodanov, and others). Anterior and posterior craniocerebral hernias (concept), principles of surgical intervention for this pathology. Craniotomy (decompression and osteoplastic) and its specific features in children. Methods for stopping bleeding from the diploic veins and sinuses of the dura mater. Mastoid trepanation and possible complications during this operation.	UK-1; UK-6; UK-8 OPK-10; OPK-11 ID UK-1.1. ID UK-1.2. ID UK-6.1. ID UK-6.3. ID UK-8.4. ID OPK-10.2. ID OPK-11.4.	Frontal survey, solving situational problems, working on a practical assignment, current control, testing in the Moodle system	2
Topographic anatomy of the facial part of the head.	Division of the facial region into regions and boundaries of the facial regions. Study the layered topography of the facial region by regions: buccal region, parotid-masticatory region, deep facial region, nasal region, orbital region, and oral region. Deep facial region. Temporopterygoid and interpterygoid cellular spaces according to N.I. Pirogov. Peripharyngeal and retropharyngeal cellular spaces. Incisions for facial phlegmon, peripharyngeal and retropharyngeal abscesses. Primary surgical treatment of facial wounds. Topography of the facial nerve. To study the relationship of the venous structures and cellular spaces of the facial region with other areas of the head and neck. Exit sites of the terminal branches of the trigeminal nerve.	UK-1; UK-6; UK-8 OPK-10; OPK-11 ID UK-1.1. ID UK-1.2. ID UK-6.1. ID UK-6.3. ID UK-8.4. ID OPK-10.2. ID OPK-11.4.	Frontal survey, solving situational problems, working on a practical assignment, current control, testing in the Moodle system	2
Topographic anatomy and operative surgery of the facial part of the head.	To become familiar with and perform incisions on a cadaver for purulent processes on the face. Primary surgical treatment of facial wounds. When analyzing the paths of inflammatory processes on the face, apply the philosophical principles of "the transformation of	UK-1; UK-6; UK-8 OPK-10; OPK-11 ID UK-1.1. ID UK-1.2. ID UK-6.1. ID UK-6.3. ID UK-8.4. ID	Frontal survey, solving situational problems, working on a practical	2

	quantity into quality" and "the unity and struggle of opposites." Surgeries for cleft lip (Vo-Ternovsky, Burian), and for macrostomia (Drakhter). Dissection of the short frenulum of the upper lip. Principles of cleft palate repair. Theoretical interview for the module "Topographic anatomy and operative surgery of the brain and facial parts of the head"	OPK-10.2. ID OPK-11.4.	assignment, current control, testing in the Moodle system	
Topographic anatomy of the neck	Neck boundaries, its division into regions (triangles). The structure of the fascia of the neck, based on the teachings of V.N. SHEVKUNENKO. Interfascial cellular spaces of the neck in clinical illumination. Layer-by-layer dissection and analysis of the topography of soft tissues within each region of the neck, special attention is paid to the age-related features of the fascia structure and the prevalence of cellular spaces in the neck. Medial triangle of the neck. Region of the carotid triangle of the neck. Main vessels and nerves of the anterior neck. Topography of the cervical and brachial plexuses in the neck. Topographic anatomy of the lymph nodes of the neck. Topographic anatomy of the larynx, trachea, pharynx, esophagus, thyroid and parathyroid glands. Features of their blood supply and innervation. Topography of the interscalene spaces in the neck. Vascular formations of the neck. Topography of the cervical and brachial plexuses in the neck. Topographic anatomy of the lymph nodes of the neck. Layer-by-layer dissection of regions. Paths of pus spread through the cellular spaces of the neck.	UK-1; UK-6; UK-8 OPK-10; OPK-11 ID UK-1.1. ID UK-1.2. ID UK-6.1. ID UK-6.3. ID UK-8.4. ID OPK-10.2. ID OPK-11.4.	Frontal survey, solving situational problems, working on a practical assignment, current control, testing in the Moodle system	2
Neck surgery	Topographic and anatomical rationale for surgical approaches to neck abscesses and phlegmons. Primary surgical treatment of penetrating and non-penetrating neck wounds. Excision of congenital cysts (median) and lateral fistulas of the neck. Surgical treatment of congenital cervical venous ectasias. Exposure and ligation of the common and external carotid arteries. Vagosympathetic block according to A.V. Vishnevsky and N.N. Burdenko. Technique for exposure and cannulation of the cervical thoracic lymphatic duct (TLD). Surgeries on the cervical esophagus. Extracapsular hemithyroidectomy with isthmus removal for thyroid tumors. Concept and topographic and anatomical rationale for subtotal subfascial strumectomy according to O.V. Nikolaev. Techniques for tracheal and laryngeal intubation, conicotomy, tracheotomy, and tracheostomy. Microtracheostomy. Potential errors and complications during these surgeries. Congenital muscular torticollis and Mikulicz myotomy for this pathology. Surgeries for accessory cervical ribs. Primary surgical treatment of penetrating and non-penetrating neck wounds.	UK-1; UK-6; UK-8 OPK-10; OPK-11 ID UK-1.1. ID UK-1.2. ID UK-6.1. ID UK-6.3. ID UK-8.4. ID OPK-10.2. ID OPK-11.4.	Frontal survey, solving situational problems, working on a practical assignment, current control, testing in the Moodle system	2
Topographic anatomy	External landmarks, division of the chest	UK-1; UK-6; UK-8	Frontal survey,	2

of the chest and mediastinal organs	into regions. Layered structure of the chest wall. Fascia and cellular spaces of the chest wall. Intercostal spaces, age-related features of the position of the intercostal vascular-nerve bundles. Syntopy of the elements of the vascular-nerve bundle, practical significance. The mammary gland (breast): position, structure, blood supply, innervation, lymph drainage. The pleura, its boundaries, pleural sinuses, their clinical significance. The diaphragm, its parts, age-related features, weak points. Topographic anatomy of the lung: boundaries, division into lobes, zones, segments. Elements of the root of the lung, their topography. Topography of the heart and pericardium. Congenital pericardial sinuses. Congenital and acquired heart defects. Mediastinum. Concept of the mediastinum and its division into sections. Age-related characteristics of mediastinal tissue. Topography of the esophagus, azygos and hemiazygos veins, and the border sympathetic trunk.	OPK-10; OPK-11 ID UK-1.1. ID UK-1.2. ID UK-6.1. ID UK-6.3. ID UK-8.4. ID OPK-10.2. ID OPK-11.4.	solving situational problems, working on a practical assignment, current control, testing in the Moodle system	
Surgical surgery of the chest and mediastinal organs.	Develop surgical approaches to mediastinal organs. Incisions for purulent mastitis and retromammary phlegmon. Techniques for performing pleural puncture and pericardial sac puncture. Thoracic drainage with rib resection. Thoracotomy. Segmental and marginal lung resection. Physician's tactics and interventions for various types of pneumothorax. Surgical interventions for congenital diaphragmatic hernias. Heart wound closure. Mitral commissurotomy. Coronary artery bypass grafting. Basics of resuscitation, closed and open cardiac massage, electrical defibrillation, intracardiac drug administration. Surgeries for esophageal atresia and congenital tracheoesophageal fistula. Surgery to correct short esophageal strictures.	UK-1; UK-6; UK-8 OPK-10; OPK-11 ID UK-1.1. ID UK-1.2. ID UK-6.1. ID UK-6.3. ID UK-8.4. ID OPK-10.2. ID OPK-11.4.	Frontal survey, solving situational problems, working on a practical assignment, current control, testing in the Moodle system	2
Final lesson	Theoretical interview on thematic modules: 1."Surgical instruments and rules for working with them. Methods of separating and connecting soft tissues" 2."Topographic anatomy and operative surgery of the upper and lower extremities"; 3. "Topographic anatomy and operative surgery of the brain and facial parts of the head" Writing a test control for the module "Topographic anatomy and operative surgery of the neck".	UK-1; UK-6; UK-8 OPK-10; OPK-11 ID UK-1.1. ID UK-1.2. ID UK-6.1. ID UK-6.3. ID UK-8.4. ID OPK-10.2. ID OPK-11.4.	Frontal survey, solving situational problems, working on a practical assignment, ongoing monitoring, output control, testing in the Moodle system	2
Topographic anatomy of the anterolateral abdominal wall. Surgical approaches to the abdominal organs.	External landmarks, conventional division into regions of the anterolateral abdominal wall. Layered topography. Weak points of the anterolateral abdominal wall. The structure of the linea alba and umbilical ring as potential hernia sites. The process of testicular descent and the testicular membrane. Topography of the inguinal canal. Inguinal space. Topography of various		Frontal survey, solving situational problems, working on a practical assignment, ongoing monitoring,	2

	sections of the diaphragm. Weak points of the diaphragm. Discuss collateral venous outflow pathways in thrombosis of the inferior vena cava and portal vein system.		output control, testing in the Moodle system	
Surgical anatomy of abdominal hernias.	Abdominal puncture (PBSG puncture). Surgeries for congenital umbilical fistulas. Plastic surgery of the anterior abdominal wall for aplasia of the abdominal muscles (Prune-Belly syndrome). Surgeries for ventral hernias. Plastic surgery of the hernial canal walls in congenital, strangulated and sliding inguinal hernias. Techniques for inguinal canal repair for oblique inguinal hernias using the methods of RU-KRASNOBAYEV, MARTYNOV, KRASNOBAYEV, and ZHIRARD-SPASOKUKOTS-KOGO, as modified by KIMBAROVSKY. Analysis of hernial canal repair for direct inguinal hernias using the methods of BASSINI and RUGGI-PARLAVECCIO. Umbilical hernias. Umbilical hernia repair according to LEXER and SAPEZHKO, and abdominal line repair according to NAPALKOV.		Frontal survey, solving situational problems, working on a practical assignment, ongoing monitoring, output control, testing in the Moodle system	2
Topographic anatomy of the abdominal cavity. Bursae, canals, pockets. Revision of the abdominal cavity.	Features of the abdominal cavity topography. Abdominal cavity floors. Topographic anatomy of peritoneal structures: ligaments, folds, pockets, bursae, and canals. The greater and lesser omentums. Variations in the structure of the greater omentum in children. Characteristic features of the blood supply, innervation, and lymphatic drainage of the organs of the upper and lower abdominal cavity. Laparoscopy and fibrolaparoscopy as diagnostic procedures. Pathways for the spread of purulent processes from the lower to the upper tract and back. Using the example of lymphatic spread of infection, apply the law of transformation of quantitative changes into qualitative ones.		Frontal survey, solving situational problems, working on a practical assignment, ongoing monitoring, output control, testing in the Moodle system	2
Topographic anatomy of the organs of the upper abdominal cavity: liver, gallbladder, stomach, duodenum.	The peritoneum and its relation to the abdominal organs. Topographic anatomy and topographic features of the upper abdominal organs: stomach, pancreas, liver, gallbladder, and spleen. Developmental defects and anomalies of these organs. Arterial blood supply and venous drainage of these organs. The portal vein, its origins, and its relationship with the pancreas. Portal hypertension.		Frontal survey, solving situational problems, working on a practical assignment, ongoing monitoring, output control, testing in the Moodle system	2
Topographic anatomy of the organs of the lower abdominal cavity: small and large intestines.	Projection of organs on the anterior abdominal wall. Syntopy and skeletotopy of the duodenum, small and large intestines. Topography of the appendix in children and its various positions. Arterial blood supply and venous drainage of the small and large intestines, innervation, and lymphatic drainage. Malformations of these organs. Modern methods of examining the gastrointestinal tract, biliary tract,		Frontal survey, solving situational problems, working on a practical assignment, ongoing monitoring,	2

	and gallbladder (fibroscopy). Theoretical interview on the topic: "Topographic anatomy of the abdominal organs"		output control, testing in the Moodle system	
Mastering practical skills in organ-complex surgery: intestinal sutures, the first stage of small bowel resection – mobilization of the resected segment. Appendectomy. Colostomy. Artificial portocaval anastomoses.	Abdominal puncture. Practicing intestinal suturing techniques. Small bowel resection – the first stage is mobilization of the resected area. Appendectomy. Stump treatment methods. Retrograde appendectomy. Resection of Meckel's diverticulum. Colon surgery for volvulus and strangulation. Analysis of colostomy stages. Artificial anus placement. Fundamental differences between colostomy and anus praeter naturalis. Analysis of surgical stages of portocaval anastomoses.		Frontal survey, solving situational problems, working on a practical assignment, ongoing monitoring, output control, testing in the Moodle system	2
Acquisition of practical competencies in organ complexes: resection of the small intestine, formation of a stump according to Doyen, formation of an interintestinal anastomosis of the "side to side" type.	Practicing the technique of stump formation according to Doyen. Small intestine resection – formation of an interintestinal anastomosis of the “side to side” type.		Frontal survey, solving situational problems, working on a practical assignment, ongoing monitoring, output control, testing in the Moodle system	2
Acquisition of practical competencies in organ complexes: resection of the small intestine, formation of interintestinal anastomosis of the "side to side" type, seromuscular sutures of Cherny, Lambert, Joly, Schmiden sutures.	Practicing the technique of applying intestinal suture according to: Cherny, Lambert, Joly, Schmiden. Small intestine resection – formation of an interintestinal anastomosis of the “side to side” type.		Frontal survey, solving situational problems, working on a practical assignment, ongoing monitoring, output control, testing in the Moodle system	2
Mastering practical competencies on organ complexes: resection of the small intestine, formation of interintestinal anastomosis of the “end-to-end” type.	Practicing the execution technique small intestine resections – formation of an interintestinal anastomosis of the “end-to-end” type. Theoretical interview on the stages of small intestine resection and intestinal sutures.		Frontal survey, solving situational problems, working on a practical assignment, ongoing monitoring, output control, testing in the Moodle system	2
Acquisition of practical competencies in organ complexes: gastrostomies according to Witzel, Toprover, Stamm-Kader. Pyloroplasties. Gastric resections. Gastroenteroanastomo	Gastric surgery. Pylorotomy according to FREDE-RAMSTEDT. Dissection, suture, gastric fistula, gastrointestinal anastomoses. Gastrostomy according to TOPROVER, WITZEL, and STAMM-KADER. Principles of gastric resection, organ-preserving surgery for complications of duodenal ulcer (bleeding, perforation), (vagotomy), drainage surgery. Gaxtroduodenostomy, gastroenterostomy,		Frontal survey, solving situational problems, working on a practical assignment, ongoing monitoring,	2

ses.	duodenojejunostomy.		output control, testing in the Moodle system	
Acquisition of practical competencies in organ complexes: liver surgery, cholecystectomy, Kuznetsov-Pensky hemostatic sutures, endoscopic surgery on abdominal organs.	Liver and biliary tract surgeries. Hemostatic sutures on the liver (Kuznetsov-Pensky, Giordino, Opel). Liver resection (right and left hemihepatectomy). Surgeries for congenital biliary atresia. Cholecystectomy. Endoscopic surgeries on the organs of the hepatopancreatobiliary system. The concept of minimally invasive endoscopic surgeries on the abdominal organs (cholecystectomy, microcholecystectomy, single-port cholecystectomy, cholecystostomy, Access to the pancreas. Removal of the spleen.		Frontal survey, solving situational problems, working on a practical assignment, ongoing monitoring, output control, testing in the Moodle system	2
Topographic anatomy of the lumbar region and retroperitoneal space. Fasciae and cellular spaces of the retroperitoneal region.	Boundaries and external landmarks of the lumbar region. Structure of the posterolateral abdominal wall and its weaknesses. Fasciae and cellular spaces of the retroperitoneal region. Their characteristics in children. Topographic anatomy of the kidneys, adrenal glands, ureters, abdominal aorta, inferior vena cava, nerve plexuses, and sympathetic ganglia. Differences in their structure and position in children. Retroperitoneal lymph nodes.		Frontal survey, solving situational problems, working on a practical assignment, ongoing monitoring, output control, testing in the Moodle system	2
Surgical interventions of retroperitoneal organs: kidneys, ureters, sympathectomy.	Surgical approaches to the retroperitoneal organs (Fedorov, Bergman, Shevkunenko). Kidney surgeries (nephrotomy, nephrostomy, renal decapsulation, nephropexy, nephrectomy). Sympathectomy. Epinephrectomy. Ureteral surgeries.		Frontal survey, solving situational problems, working on a practical assignment, ongoing monitoring, output control, testing in the Moodle system	2
Topographic anatomy of the pelvis and perineum.	Pelvic boundaries and external landmarks. Bone and ligamentous structure, musculature of the pelvic walls and floor. Pelvic floors. Peritoneal course in the pelvis in male and female children. Peritoneal folds. Pelvic fascia. Cellular spaces: parietal and periorgan. Lateral parietal cellular spaces of the pelvis. Topography of the external and internal iliac arteries, their branches, and nerve trunks. Structural and topographic features of the urinary bladder, prostate gland, vas deferens, uterus, ovaries, and vagina.		Frontal survey, solving situational problems, working on a practical assignment, ongoing monitoring, output control, testing in the Moodle system	2
Pelvic surgery: uterine and adnexal procedures, bladder, prostate, and testicular procedures. Endoscopic kidney, ureter, uterine, and adnexal procedures.	Pelvic organ surgeries. Bladder puncture. High bladder incision. Urethrocele and surgical treatment of the condition. Surgeries for malformations: cryptorchidism, hydrocele, phimosis, anal and rectal atresia. Intrapelvic anesthesia according to Shkolnikov-Selivanov. Surgeries for hydrocele and spermatic cord. Surgical treatment of testicular malposition.		Frontal survey, solving situational problems, working on a practical assignment, ongoing	2

Surgeries for paraproctitis and hemorrhoids.	Hypospadias surgery. Prostate surgery (adenomectomy). Bladder puncture, cystostomy. Surgeries for ectopic bladder. Surgeries for uterine and adnexal pathologies (ectopic pregnancy, ovarian apoplexy, supravaginal uterine amputation). Endoscopic surgeries on the kidneys, ureters, uterus, and appendages: endoscopic nephrectomy, ureterolithotomy, and amputation of the uterus and appendages. Surgeries for acute and chronic paraproctitis and hemorrhoids.		monitoring, output control, testing in the Moodle system	
Final lesson	Conducting an oral survey and testing practical skills (competencies) based on the results of mastering the topics of 4.5 semesters		Frontal survey, solving situational problems, working on a practical assignment, ongoing monitoring, output control, testing in the Moodle system	2
			Total hours	64

6. **In paragraph 2.4. "Interactive forms of training", the table shall be presented as follows:**

Item No.	**Topic of the practical lesson, lecture**	**Labor intensity in hours**	**Interactive learning**	**Labor intensity in hours, as a percentage of the lesson**
1	Surgical instruments. Separation and fusion of tissues. Suture classification. Knots.	2	Introduction to endoscopic instrumentation. Interactive survey.	16 minutes (0.25 hours) / 6.6%
2	Topographic anatomy of the upper limb. Shoulder girdle. Scapular, subclavian, deltoid, and axillary regions.	2	Interactive survey. Preparation of cadaveric material	16 minutes (0.25 hours) / 6.6%
3	Topographic anatomy of the upper limb. Shoulder, cubital fossa, elbow joint, forearm.	2	Solving situational problems. Peer review of notes.	16 minutes (0.25 hours) / 6.6%
4	Topographic anatomy of the upper limb. Dorsal and palmar surfaces of the hand, fingers, wrist joint.	2	Solving situational problems. Discussion	16 minutes (0.25 hours) / 6.6%
5	Topographic anatomy of the lower limb. Gluteal region, hip joint, femur.	2	Interactive survey. Preparation of cadaveric material	16 minutes (0.25 hours) / 6.6%
6	Topographic anatomy of the lower limb. Leg, foot, knee and ankle joints.	2	Small group method. Solving situational problems.	16 minutes (0.25 hours) / 6.6%
7	Operative surgery of purulent processes (panaritiums,	2	Video films. Situational tasks	16 minutes (0.25 hours) / 6.6%

	phlegmons of the upper and lower extremities).			
8	Joint surgeries. Bone surgeries. Amputations and disarticulations.	2	Video films. Simulation tasks	16 minutes (0.25 hours) / 6.6%
9	Topographic anatomy and surgical treatment of the brain region of the head.	2	Interactive survey	16 minutes (0.25 hours) / 6.6%
10	Topographic anatomy of the facial part of the head.	2	Video films. Situational tasks.	16 minutes (0.25 hours) / 6.6%
11	Topographic anatomy and operative surgery of the facial part of the head.	2	Video films. Situational tasks	16 minutes (0.25 hours) / 8.3%
12	Topographic anatomy of the neck	2	Discussion	16 minutes (0.25 hours) / 6.6%
13	Neck surgery	2	Interactive survey	16 minutes (0.25 hours) / 6.6%
14	Topographic anatomy of the chest and mediastinal organs	2	Computer presentations	16 minutes (0.25 hours) / 6.6%
15	Surgical surgery of the chest and mediastinal organs.	2	Interactive survey	16 minutes (0.25 hours) / 6.6%
16	Final lesson	2	Interactive survey	16 minutes (0.25 hours) / 6.6%
5th semester				
1	Topographic anatomy of the anterolateral abdominal wall. Surgical approaches to abdominal organs.	2	Videos. Solving situational problems. Interactive survey.	12 minutes (0.20 hours) / 5.6%
2	Surgical anatomy of abdominal hernias.	2	Work on the Medical simulator for the development of surgical skills in endoscopic operations, developed V.V. Grebenyuk (RUSSIAN FEDERATION PATENT for utility model No. 147842 dated 16.10.2014 / published 20.11.2014 / Bulletin No. 32) (TLS-1)). Peer review of notes.	12 minutes (0.20 hours) / 5.6%
3	Topographic anatomy of the abdominal cavity. Bursae, canals, and pockets. Examination of the abdominal cavity.	2	Work on (TLS-1) Computer simulations.	12 minutes (0.20 hours) / 5.6%
4	Topographic anatomy of the organs of the upper	2	Work on (TLS-1). Video films.	12 minutes (0.25 hours) / 5.6%

	abdominal cavity: liver, gallbladder, stomach, duodenum.		Situational Tasks.	
5	Topographic anatomy of the organs of the lower abdominal cavity: small and large intestines.	2	Work on (TLS-1). Video films. Situational tasks.	12 minutes (0.20 hours) / 5.6%
6	Mastering practical competencies in organ complexes: intestinal sutures, the first stage of small intestine resection - mobilization of the resected area.	2	Work on (TLS-1). Video films. Situational tasks. Interactive survey.	12 minutes (0.20 hours) / 5.6%
7	Acquisition of practical competencies in organ complexes: resection of the small intestine, formation of a stump according to Doyen, formation of an interintestinal anastomosis of the “side to side” type.	2	Work on (TLS-1). Video films. Situational tasks	12 minutes (0.20 hours) / 5.6%
8	Mastering practical competencies in organ complexes: resection of the small intestine, formation of interintestinal anastomosis according to the type "side to side", seromuscular sutures of Cherny, Lambert, Joly, Schmiden sutures.	2	Work on (TLS-1). Video films Situational tasks. Interactive survey.	12 minutes (0.20 hours) / 5.6%
9	Acquisition of practical competencies in organ complexes: resection of the small intestine, formation of an interintestinal anastomosis of the “end-to-end” type.	2	Work on (TLS-1). Video films. Computer presentations	12 minutes (0.20 hours) / 5.6%
10	Acquisition of practical competencies in organ complexes: gastrostomies according to Witzel, Toprover, Stamm-Kader. Pyloroplasties. Gastric resections. Gastroenteroanastomoses.	2	Work on (TLS-1). Video films Computer presentations. Situational tasks.	12 minutes (0.20 hours) / 5.6%
11	Acquisition of practical competencies in organ complexes: liver surgery, cholecystectomy,	2	Work on (TLS-1). Video films. Computer presentations.	12 minutes (0.20 hours) / 5.6%

	Kuznetsov-Pensky hemostatic sutures, endoscopic surgery on abdominal organs.			
12	Topographic anatomy of the lumbar region and retroperitoneal space. Fasciae and cellular spaces of the retroperitoneal region.	2	Work on (TLS-1). Video films. Interactive survey.	12 minutes (0.20 hours) / 5.6%
13	Surgical interventions of retroperitoneal organs: kidneys, ureters, sympathectomy.	2	Work on (TLS-1). Video films. Situational tasks.	12 minutes (0.20 hours) / 5.6%
14	Topographic anatomy of the pelvis and perineum.	2	Work on (TLS-1). Video films. Interactive survey.	12 minutes (0.20 hours) / 5.6%
15	Pelvic surgery: uterine and adnexal procedures, bladder, prostate, and testicular procedures. Endoscopic kidney, ureter, uterine, and adnexal procedures. Surgeries for paraproctitis and hemorrhoids.	2	Work on (TLS-1). Video films. Computer presentations	12 minutes (0.20 hours) / 5.6%
16	Final lesson	2	Interactive survey	12 minutes (0.20 hours) / 5.6%

7. **In paragraph 2.6. "Independent work of students: in-class, out-of-class" the table shall be presented as follows:**

Item No.	**Topic of the practical lesson**	**Time for a student to prepare for a lesson**	**Forms of extracurricular independent work of students**	
			Compulsory and the same for all students	**At the student's choice**
Topics for independent work in semester 4				
1	Surgical Instruments. Tissue Separation and Reattachment. Sutures	1.5 hours	Learn surgical instruments, basic types of sutures and knots, and study vascular suture patterns (Cuneo, Carell, Gorsley)..	Make a simulated wound (skin, aponeurosis). Draw a diagram of tendon sutures. Familiarize yourself with the design and mechanism of action of vascular suturing devices.
2	Topographic anatomy of the upper limb. Shoulder girdle	1.5 hours	Study the vascular suture patterns (Cuneo, Carell, Gorsley)	Draw a diagram of tendon sutures. Learn about the structure and mechanism of action of vascular suturing devices.
3	Topographic anatomy	1.5 hours	Describe the projection	Draw the collateral

	of the upper limb. Shoulder, elbow joint, forearm		lines of the main vascular-nerve bundles (brachial, radial, ulnar, median).	circulation of the elbow joint. Draw a cross-section of the shoulder and forearm in the middle. thirds.
4	Topographic anatomy of the upper limb. Wrist joint, hand	1.5 hours	Study the anatomy of the hand bones. Draw a diagram of the formation of the superficial and deep arterial arches of the palm.	Complete a computer presentation on the blood supply and innervation of the hand. Draw a cross-section of the hand in the middle third of the metacarpal bones.
5	Topographic anatomy of the lower limb - hip joint, gluteal region, thigh	1.5 hours	To study the collateral arterial network of the hip joint.	Draw the Roser-Nelaton diagram and describe its diagnostic value in dislocations and fractures of the femoral neck.
6	Topographic anatomy of the lower limb. Leg, foot, knee and ankle joints	1.5 hours	Study the collateral circulation of the knee joint. Draw a cross-section of the leg in the middle third.	Sketch the joints of the foot. Create a computer presentation on the topographic anatomy of the lower limb.
7	Operative surgery of purulent processes (panaritiums, phlegmons of the upper and lower extremities)	1.5 hours	Study surgical incisions for purulent processes of the hand (panaritiums, phlegmons). Study incision diagrams for panaritiums.	Draw incision diagrams for purulent processes in the shoulder and forearm. Draw incision diagrams on the foot (Delorme).
8	Joint surgeries. Bone surgeries. Amputation and disarticulation	1.5 hours	To study the puncture of lower limb joints. To study the Pirogov osteoplastic amputation scheme.	Prepare a computer presentation on knee and hip joint transplantation
9	Topographic anatomy and surgical procedures of the brain	1.5 hours	To study the layered structure of the cranial vault tissues. To study the diagram of surgical approaches to the brain.	Write down in your notebooks the exit points, innervation zones and symptoms of damage to each of the 12 pairs of cranial nerves Complete a computer presentation on bone-plastic and resection craniotomy
10	Topographic anatomy of the facial region of the head	1.5 hours	To study the diagram of the course of the branches of the trigeminal and facial nerves.	Draw the projection of the branches of the facial nerve and trigeminal nerve.
11	Topographic anatomy and operative surgery	1.5 hours	Study the route of the trigeminal and facial	Complete a computer presentation on facial

	of the facial part of the head		nerves. Study surgical procedures for cleft lip and cleft palate.	aesthetic surgery. Conduct a literature review on methods of drainage of purulent processes in the soft tissues of the face.
12	Topographic anatomy of the neck	1.5 hours	Study the diagram of the fascia of the neck by V.N. Shevkunenko. To study the topography of the parathyroid glands. To study the topographic anatomy of the larynx	Record the fasciae of the neck, blood supply, and innervation of the neck organs in your notebooks. Draw a diagram of the cellular spaces of the neck and the routes of spread of purulent processes.
13	Neck surgery	1.5 hours	To study the technique of tracheotomy, tracheostomy, conicotomy, tracheal intubation. Study the diagram of surgical approaches to the neck organs. Study the diagram of incisions for purulent processes in the neck.	Complete a computer presentation on layer-by-layer dissection of the thyroid gland. Draw the collateral circulation that occurs when the common carotid artery is ligated.
14	Topographic anatomy of the chest and mediastinal organs	1.5 hours	To study the lymph drainage pattern from the mammary gland. Study the topographic anatomy of the lung: boundaries, division into lobes, zones, and segments. Study the topographic anatomy of the heart, including Grekov's zone.	Draw the projection lines of the lung lobes, Grekov's zones.
15	Surgery of the chest and mediastinal organs	1.5 hours	Study incision patterns for purulent mastitis. Study the Bulau pleural drainage pattern and the pleural puncture technique.	Draw extra- and transpleural approaches to the mediastinal organs Draw a diagram of aortocoronary bypass surgery.
16	Final lesson	1.5 hours	Preparation on theoretical issues (lectures, basic and additional literature, methodological recommendations, preparation of a report, essay.	Computer presentation. Solving situational problems
Topics for independent work in the 5th semester				

1	Topographic anatomy of the anterolateral abdominal wall. Surgical approaches to abdominal organs.	1.5 hours	Study the structure of the inguinal canal, femoral and umbilical rings.	Draw a diagram of the structure of the rectus abdominis sheath at different levels Draw a diagram of the structure of the white line of the abdomen.
2	Surgical anatomy of abdominal hernias.	1.5 hours	Study the scheme of inguinal canal plastic surgery according to Martynov, Girard-Spasokukotsky with Kimbarovsky, Bassini, Kukudzhanov sutures. Study the scheme of plastic surgery of the umbilical ring according to Sapezhko and Mayo, the femoral ring according to Bssini and Ruggi-Parlavecchio.	Draw a diagram of the umbilical ring plastic surgery according to Lexner
3	Topographic anatomy of the abdominal cavity. Bursae, canals, and pockets. Examination of the abdominal cavity.	1.5 hours	List the channels, pockets, bags, and pockets of the abdominal cavity.	Describe the boundaries of the foramen of Winslow. List the anatomical structures located within the hepatoduodenal ligament and their syntopy.
4	Topographic anatomy of the organs of the upper abdominal cavity: liver, gallbladder, stomach, duodenum.	1.5 hours	To study the blood supply to the stomach. To study the anatomical features of the superior mesenteric artery.	Describe the division of the liver into segments Draw a diagram of the formation of the portal vein.
5	Topographic anatomy of the lower abdominal organs: small and large intestines	1.5 hours	To study the anatomical features of the inferior mesenteric artery.	Draw a diagram of the blood supply to the small intestine. Draw a diagram of the blood supply to the large intestine.
6	Mastering practical skills in organ-complex surgery: intestinal sutures, the first stage of small bowel resection – mobilization of the resected segment. Appendectomy. Colostomy. Artificial portocaval anastomoses.	1.5 hours	To study the sequence of surgical actions during appendectomy.	Describe the classification of intestinal sutures Draw a diagram of small intestine resection and types of interintestinal anastomoses

7	Acquisition of practical competencies in organ complexes: resection of the small intestine, formation of a stump according to Doyen, formation of an interintestinal anastomosis of the “side to side” type.	1.5 hours	To study the sequence of stump formation according to Doyen. Interintestinal anastomosis of the "side-to-side" type.	Draw a diagram of stump formation according to Doyen. Interintestinal anastomosis of the "side-to-side" type.
8	Acquisition of practical competencies in organ complexes: resection of the small intestine, formation of interintestinal anastomosis of the “side to side” type, seromuscular sutures of Cherny, Lambert, Joly, Schmiden sutures.	1.5 hours	Study the seams: Czerny, Lambert, Joly, Schmiden.	Draw a diagram of the final formation of an interintestinal 4-row anastomosis of the “side to side” type.
9	Acquisition of practical competencies in organ complexes: resection of the small intestine, formation of an interintestinal anastomosis of the “end-to-end” type.	1.5 hours	To study the sequence of formation of an end-to-end anastomosis.	Draw a diagram of the final formation of an interintestinal 4-row end-to-end anastomosis.
10	Acquisition of practical competencies in organ complexes: gastrostomies according to Witzel, Toprover, and Stamm-Kader. Pyloroplasties. Gastric resections. Gastroenteroanastomoses.	1.5 hours	To study the surgical technique of gastrostomy, gastric resection and gastroenteroanastomosis.	Draw the diagrams of gastric resection (B-1, B-2), Hofmeister-Finsterer)
11	Acquisition of practical competencies in organ complexes: liver surgery, cholecystectomy, Kuznetsov-Pensky hemostatic sutures, endoscopic surgery on abdominal organs.	1.5 hours	To study the surgical technique of applying hemostatic sutures to the liver.	Draw a diagram of the liver sutures
12	Topographic anatomy	1.5 hours	To study the diagram of the	Draw a diagram of the

	of the lumbar region and retroperitoneal space. Fasciae and cellular spaces of the retroperitoneal region.		cellular spaces of the retroperitoneal region (Stromberg diagram)	blood supply to the kidney.
13	Surgical interventions of retroperitoneal organs: kidneys, ureters, sympathectomy.	1.5 hours	To study the access diagram to the organs of the retroperitoneal space	Prepare a computer presentation on surgical approaches to the kidney, sympathetic trunk, aorta, and inferior vena cava.
14	Topographic anatomy of the pelvis and perineum	1.5 hours	To study the blood supply to the uterus and ovaries	Draw a diagram of how a cystostomy is performed. Draw the structure of the pelvic diaphragm.
15	Pelvic surgery: uterine and adnexal procedures, bladder, prostate, and testicular procedures. Endoscopic kidney, ureter, uterine, and adnexal procedures. Surgeries for paraproctitis and hemorrhoids.	1.5 hours	To study surgical interventions on the uterus and its appendages in case of ectopic pregnancy	Prepare a literature review on bladder and testicular surgeries
16	Final lesson	1.5 hours	Preparation on theoretical issues (lectures, basic and additional literature, methodological recommendations, preparation of a report, essay.	Computer presentation. Solving situational problems.
Total labor intensity in hours:		48		12
Total labor intensity (in hours)			60	

8. **The tables in Section 3.5. "Licensed and Freely Distributed Software Used in the Educational Process" and "Professional Databases, Information and Reference Systems, and Electronic Educational Resources" shall be set out as follows:**

List of Software (Commercial Software Products)

No.	List of software (commercial software products)	Details of supporting documents
1.	MS Windows 7 Pro operating system	License number 48381779
2.	Operating system: MS Windows 10 Pro	AGREEMENT No. UT-368 09/21/2021
3.	MS Office	License numbers: 43234783, 67810502, 67580703, 64399692, 62795141, 61350919
4.	Kaspersky Endpoint Security for Business – Standard Russian Edition. 50-99 Node 1-year Educational Renewal License	Agreement No. 7 AA 07.02.2025

5.	1C Accounting and 1C Salary	LICENSE AGREEMENT 612/L 02.02.2022 (additional licenses)
6.	1C: PROF University	LICENSE AGREEMENT No. KrTsB-004537 12/19/2023
7.	1C: PROF Library	LICENSE AGREEMENT No. 2281 11/11/2020
8.	Consultant Plus	Contract No. 41AA27.12.2024
9.	Kontur.Tolk	Agreement No. K 213753/24 13.08.2024
10.	3KL e-learning environment (Russian Moodle)	Agreement No. 1362.5 20.11.2024
11.	Astra Linux Common Edition	Agreement No. 142 A 21.09.2021
12.	Information system "Plans"	Agreement No. 2873-24 28.06.2024
13.	1C: Document Management	Agreement No. 2191 15.10.2020
14.	Р7-Офис	Agreement No. 2 КС 18.12.2020
15.	License for the "ROSA CHROME OS Workstation"	Agreement No.88A 22.08.2024
16.	Alt Virtualization Server 10 (for secondary and higher vocational education)	Agreement No. 14АК 27.09.2024
17.	Dr.Web Desktop Security Suite Comprehensive Protection + Control Center for 12 months	Agreement No. 8 21.10.2024
18.	"Schedule for Educational Institutions" software	Agreement No. 82A 30.07.2024

List of freely distributed software

No.	List of freely distributed software	Links to the license agreement
1.	Yandex Browser	Freely distributed License Agreement for the use of Yandex Browser software https://yandex.ru/legal/browser_agreement/
2.	Yandex.Telemost	Freely distributed Software License Agreementhttps://yandex.ru/legal/telemost_mobile_agreement/
3.	Dr.Web CureIt!	Freely distributed License Agreement: https://st.drweb.com/static/new-www/files/license_CureIt_ru.pdf
4.	OpenOffice	Freely distributed License: http://www.gnu.org/copyleft/lesser.html
5.	LibreOffice	Freely distributed License: https://ru.libreoffice.org/about-us/license/
6.	VK Calls	Бесплатно распространяемое https://vk.com/licence
7.	Kaspersky Free Antivirus	Freely distributed https://products.s.kaspersky-labs.com/homeuser/Kaspersky4Win2021/21.16.6.467/english-0.207.0/3830343439337c44454c7c4e554c4c/kis_eula_en-in.txt

9. 3.6. Professional databases, information and reference systems, electronic educational resources

Resource name	Resource Description	Access	Resource address
Electronic library systems			
Student Consultant. Medical University Electronic Library	For students and faculty of medical and pharmaceutical universities. Provides access to electronic versions of textbooks, teaching aids, and periodicals.	Remote access after registration under the university profile	https://www.studentlibrary.ru/
Reference and information system "MedBaseGeotar".	The MedBaseGeotar reference and information system is designed for practicing medical specialists, researchers, teachers, graduate students, residents, senior students, and healthcare managers to quickly search, select, and read essential medical literature from a single data source.	Remote access after registration under the university profile	https://mbasegeotar.ru/pages/index.html
Electronic Library System "Bookup"	A large medical library is an information and educational platform for the shared use of electronic educational and methodological publications from medical universities in Russia and the CIS countries.	Remote access after registration under the university profile	https://www.books-up.ru/
Electronic Block System "Lan"	The Network Electronic Library of Medical Universities is an electronic database of educational and scientific works on medical topics, created for the purpose of implementing network forms of professional educational programs, open access to educational materials for partner universities.	Remote access after registration under the university profile	https://e.lanbook.com/
Scientific Electronic Library "CyberLeninka"	CyberLeninka is a scientific electronic library built on the Open Science paradigm. Its primary goals are the	free access	https://cyberleninka.ru/

	popularization of science and scientific activity, public oversight of the quality of scientific publications, the development of interdisciplinary research, a modern institution of scientific review, increasing the citation rate of Russian science, and building a knowledge infrastructure. It contains over 2.3 million scientific articles.		
Human Biology Knowledge Base	Reference information on physiology, cell biology, genetics, biochemistry, immunology, and pathology. (Source: Institute of Molecular Genetics, Russian Academy of Sciences.)	free access	http://humbio.ru/
State Register of Medicines	The State Register of Medicines website contains information about medications: indications, contraindications, mechanism of action, side effects, dosages, and methods of administration.	free access	https://grls.rosminzdrav.ru/GRLS.aspx
Information systems			
Clinical Guidelines Index	A resource of the Russian Ministry of Health that contains clinical guidelines developed and approved by medical professional non-profit organizations of the Russian Federation, as well as methodological manuals, nomenclatures, and other reference materials.	Link to download the application	https://cr.minzdrav.gov.ru/#!/
Federal Electronic Medical Library (FEML)	The Federal Electronic Medical Library is part of the Unified State Healthcare Information System as a reference system. The FEML was created using the collections of the I.M. Sechenov Central Scientific	free access	https://femb.ru/

	Medical Library.		
Russian State Library	Collection size: approximately 3 million titles Period covered: from the 11th century to the present The Russian State Library's Digital Library is a collection of electronic copies of valuable and frequently requested publications from the Russian State Library's collections, external sources, and documents originally created in electronic form.	Registration on the website	https://www.rsl.ru/
Russian Medical Associatio	A professional online resource. Purpose: to promote effective professional activity among medical personnel. Contains the charter, personnel, structure, membership rules, and information about the Russian Medical Union.	free access	http://www.rmass.ru/
Web medicine	The website provides a directory of professional medical resources, including links to the most authoritative specialized websites, journals, societies, as well as useful documents and programs. It is intended for physicians, students, and staff of medical universities and research institutions.	free access	http: //webmed.irkutsk.ru/
Databases			
World Health Organization	The site contains news, statistics on countries that are members of the World Health Organization, fact sheets, reports, WHO publications, and much more.	free access	http://www.who.int/ru/
Ministry of Science and Higher Education	The website of the Ministry of Science and Higher Education of the Russian Federation	free access	http://www.minobrnauki.gov.ru

of the Russian Federation	contains news, newsletters, reports, publications, and much more.		
Ministry of Education of the Russian Federation	The website of the Ministry of Education of the Russian Federation contains news, newsletters, reports, publications, and much more.	free access	https://edu.gov.ru/
Polpred.com	Electronic Library System Business Media Media Review	free access	https://polpred.com/news
Bibliographic databases			
Database "Russian Medicine"	Created at the Central Scientific and Methodological Library, it covers the entire collection since 1988. The database contains bibliographic descriptions of articles from Russian journals and collections, dissertations and their abstracts, as well as Russian and foreign books, institute proceedings, conference materials, etc. Thematically, the database covers all areas of medicine and related fields of biology, biophysics, biochemistry, psychology, etc.	free access	https://rucml.ru/
PubMed	A text database of medical and biological publications in English. PubMed is an electronic search engine with free access to 30 million publications from 4,800 indexed medical journals. The database contains articles published from 1960 to the present, including information from MEDLINE, PreMEDLINE, and NLM. Each year, the portal is updated with more than 500,000 new papers.	free access	https://pubmed.ncbi.nlm.nih.gov/

eLIBRARY.RU	A Russian information portal in science, technology, medicine, and education, containing abstracts and full texts of over 13 million scientific articles and publications. The eLIBRARY.RU platform offers electronic versions of over 2,000 Russian scientific and technical journals, including over 1,000 open-access journals.	Full functionality of the site is available after registration.	http://elibrary.ru/defaultx.asp
Electronic library of dissertations	Currently, the Electronic Library of Dissertations of the Russian State Library contains more than 919,000 full texts of dissertations and abstracts.	free access	http://diss.rsl.ru/?menu=disscatalog/
Medline.ru	Medical and biological portal for specialists. Biomedical journal.	free access	https://journal.scbmt.ru/jour/index
Official Internet portal of legal information	The single official state information and legal resource in Russia	free access	http://pravo.gov.ru/