Federal State Autonomous Educational Institution of Higher Education
PEOPLES' FRIENDSHIP UNIVERSITY OF RUSSIA
NAMED AFTER PATRICE LUMUMBA
RUDN University

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

COURSE SYLLABUS

TOPOGRAPHIC ANATOMY AND OPERATIVE SURGERY
course title

Recommended by the Didactic Council for the Education Field of:

31.05.01 General Medicine
field of studies / speciality code and title

The student's internship is implemented within the professional education programme of higher education:

General Medicine
higher education programme profile/specialisation title

2026

1. COURSE GOAL(s)

The discipline "Topographic anatomy and operative surgery" is included in the program of the specialty "General medicine" in the direction of 31.05.01 " General medicine " and is studied in the 6th, 7th semesters of the 3rd, 4th courses. The discipline is implemented by the Department of Operative Surgery and Clinical Anatomy named after I.D. Kirpatovsky. The discipline consists of 4 sections and 23 topics and is aimed at studying the mastering the theoretical foundations of topographic anatomy and operative surgery. The study of topographic anatomy is aimed at mastering the layered structure of areas of the human body, as well as the study of surgical, relief, orientation and projection anatomy. The study of the types, principles and techniques of performing basic surgical operations. Receiving practical skills in basic operating techniques.

The purpose of mastering the course is the anatomical and surgical training of students necessary for subsequent work in clinical, primarily surgical, departments and subsequent independent activity.

2. REQUIREMENTS FOR LEARNING OUTCOMES

The course **«Topographic anatomy and operative surgery»** is expected to contribute the following competences: GPC-4, GPC-5, GPC-6.

Table 2.1. List of competences that students acquire through the course study

Competence code	**Competence descriptor**	**Competence formation indicators** (within this course)
GPC-4	Being able to use medical devices provided for by the procedure for medical care, and conduct patient examinations in order to determine a diagnosis	GPC-4.1. Being able to use medical devices in accordance with the current procedures for the provision of medical care, clinical guidelines (treatment protocols) on the provision of medical care, care taking into account the medical care standards. GPC-4.2. Being able to assess the effectiveness and safety of medical devices. GPC-4.3. Mastering the technique of performing typical medical procedures using medical devices provided for by the procedures for medical care provision.
GPC-5	Being able to assess morpho-functional, physiological conditions and pathological processes in the human body to solve professional tasks	GPC-5.3. Being able to determine morpho-functional, physiological states and pathological processes of the human body.
GPC-6	Being able to organize patient care, provide primary health care, arrange work and make professional decisions in emergency conditions at the prehospital stage, in emergency situations, epidemics and in foci of mass destruction	GPC-6.1. Mastering the algorithm for providing first aid in emergency conditions, including in extreme conditions and foci of mass destruction. GPC-6.3. Being able to provide emergency medical care to patients in conditions that pose a threat to the life of a patient, including clinical death (cessation of the vital bodily functions (blood circulation and (or) breathing).

3.COURSE IN HIGHER EDUCATION PROGRAMME STRUCTURE

The course refers to the core/variable/elective* component of (B1) block of the higher educational programme curriculum.

* - Underline whatever applicable.

Within the higher education programme students also master other (modules) and / or internships that contribute to the achievement of the expected learning outcomes as results of the course study.

Table 3.1. The list of the higher education programme components/disciplines that contribute to the achievement of the expected learning outcomes as the course study results

Competence code	**Competence descriptor**	**Previous courses/modules, internships***	**Subsequent courses/modules, internships***
GPC-4	Being able to use medical devices provided for by the procedure for medical care, and conduct patient examinations in order to determine a diagnosis	General Surgery; Biotechnology; Physics; Chemistry; Bioorganic chemistry; Pharmacology; Introductory practice for obtaining primary professional skills: patient care (simulation center); Introductory practice for obtaining primary professional skills: patient care; Practice of diagnostic profile: assistant ward nurse; Practice in obtaining primary professional skills: assistant to junior medical staff;	Neurology, medical genetics, neurosurgery; Endocrinology; Anesthesiology, intensive care, intensive care; Traumatology, orthopedics; General medical skills; Urgent conditions; Hospital surgery, pediatric surgery; Oncology, radiation therapy; Experimental oncology;
GPC-5	Being able to assess morpho-functional, physiological conditions and pathological processes in the human body to solve professional tasks	Biochemistry; Normal physiology; General Surgery; Biology; Microbiology, virology; Pathophysiology, clinical pathophysiology; Propaedeutics of internal diseases; Immunology; Pathological anatomy, clinical pathological anatomy; Chemistry; Pharmacology; Bioorganic chemistry; Anatomy; Histology, embryology, cytology;	Obstetrics and gynecology; Oncology, radiation therapy; Molecular genetic methods; Methods of microbiological diagnostics; Phthisiology; Anesthesiology, intensive care, intensive care; Ophthalmology; Methods of cell biology and histology; Forensic medicine; Maxillofacial surgery; Medical forensics; Otorhinolaryngology; Pediatrics;
GPC-6	Being able to organize patient care, provide primary health care, arrange work and make professional decisions in emergency conditions at the prehospital	General Surgery; The basics of military training. Life safety; Introductory practice for obtaining primary professional skills: patient care (simulation center);	Disaster Medicine; Urgent conditions; Infectious diseases;

	stage, in emergency situations, epidemics and in foci of mass destruction		

3. INTERNSHIP WORKLOAD

The total workload of the discipline «**Topographic anatomy and operative surgery»** is equal to **6** credits.

Table 4.1. Types of academic activities during the period of the HE program mastering

Types of academic activities		**TOTAL, academic hours** (ac.h)	**Semesters**	
			6	**7**
Contact academic hours		***140***	***68***	***72***
Lectures (LC)				
Lab work (LW)		140	68	72
Seminars (workshops/tutorials) (S)		0	0	0
Self-studies, academic hours		37	19	*18*
Evaluation and assessment (exam/passing/failing grade)		*39*	*21*	*18*
Course workload	Academic hours	**216**	**108**	**108**
	Credits	**6**	**3**	**3**

* To be filled in regarding the higher education programme correspondence training mode.

5. COURSE CONTENTS

Table 5.1. Internship contents

Course module title	**Course module contents (topics)**	**Academic activities types**
Module 1. Introduction to the Discipline	**Topic 1.1.** Theoretical foundations of topographic anatomy. Applied anatomy and its main types. Fascia, cellular spaces and their clinical significance. Basic concepts and problems of modern transplantology.	LW
Module 2. Topographic anatomy of the extremities	**Topic 2.1.** Shoulder girdle: subclavian, deltoid, scapular, axillary regions. Shoulder. The elbow region. The borders. External landmarks. Layers. Blood vessels and nerves. Surgical anatomy of the shoulder and elbow joints. Capsules, extra-articular and intra-articular structures. Blood supply and innervation of joints.	LW
	Topic 2.2. Forearm, hand. The borders. External landmarks. Layers. Surgical anatomy of the wrist joint. Capsule, extra-articular and intra-articular structures. Blood supply and innervation of the joint.	LW
	Topic 2.3. The gluteal region: borders, external relief, layers.	LW

	Hip: boundaries, external landmarks, division into areas, layers. Femoral triangle. Neurovascular bundles. Inguinal lymph nodes. Surgical anatomy of the femoral canal, obturator canal, adductor canal. Surgical anatomy of the hip joint. Capsule, extra-articular and intra-articular structures. Blood supply and innervation of the joint.	
	Topic 2.4. Knee region. Knee joint: ligaments, synovial bags. Shin. Foot. The borders. External relief. Division into regions. Layers. Surgical anatomy of the medial malleolar, calcaneal and plantar canals. Surgical anatomy of the knee and ankle joints. Capsules, extra-articular and intra-articular structures. Blood supply and innervation.	LW
Module 3. Topographic anatomy of the head, neck, thorax	**Topic 3.1.** Head. Borders, sections and regions. External landmarks. The cranial vault. Structural features of the soft tissues and bones of the cranial vault. Arterial blood supply and venous outflow of the head. Frontal-parietal-occipital and temporal regions. Meninges and intermeningeal spaces. Sinuses of the dura mater. The face. Superficial and deep lateral areas of the face.	LW
	Topic 3.2. Neck. Borders, regions, and layers of the neck. Relationships of the cervical plexuses with the plexuses of the head, chest, and upper limb. Anterior neck: submandibular, carotid, and scalene-vertebral triangles. Sternocleidomastoid and lateral regions. Surgical anatomy of the neck organs: esophagus, trachea, and thyroid gland.	LW
	Topic 3.3. Thorax. Chest wall. The mammary gland. Intercostal spaces. Diaphragm. Pleura, pleural sinuses.	LW
	Topic 3.4. Thoracic cavity. Surgical anatomy of the lungs. Clinical anatomy of the heart. Mediastinum. Surgical anatomy of organs of the anterior and posterior mediastinum.	LW
Module 4. Topographic anatomy of the abdomen, pelvis and perineum	**Topic 4.1.** The abdomen. Borders. External relief, landmarks. Division into sections and regions. Projection of the abdominal organs onto the anterolateral wall of the abdomen. Blood vessels, lymphatic vessels and nerves. The anterolateral abdomen wall. The linea alba and the umbilical ring. Inguinal region. The inguinal canal. Surgical anatomy of the spermatic cord. Surgical anatomy of the inguinal, femoral and umbilical hernias.	LW
	Topic 4.2. Abdominal cavity. Peritoneum. Ligaments, bursae, canals, sinuses, greater and lesser omentum. Surgical anatomy of abdominal cavity upper floor organs: stomach, duodenum, liver, gallbladder and extrahepatic bile ducts, spleen, pancreas.	LW
	Topic 4.3. Surgical anatomy of the abdominal cavity lower floor organs: small intestine, large intestine. Posterior abdominal wall. Musculoaponeurotic and fascial formations of posterior abdominal wall.	LW
	Topic 4.4. Retroperitoneal space. Surgical anatomy of organs and neurovascular structures: the kidney, ureter, adrenal glands, abdominal aorta, vena cava inferior, thoracic lymph duct.	LW
	Topic 4.5. Topographic anatomy of the pelvis. Surgical	LW

	anatomy of the male pelvic organs: rectum, bladder, ureter, prostate gland, seminal vesicles, vas deferens. Surgical anatomy of the female pelvis: rectum, uterus and its appendages, the bladder, ureter.	
	Topic 4.6. Topographic anatomy of the perineum. Pelvic and urogenital diaphragm. Surgical anatomy of the perineum in men and women: urethra, scrotum, testicle, spermatic cord, vagina.	LW
Module 5. Operative surgery	**Topic 5.1.** Operative surgery: content and study methods. Fundamentals of surgical theory. Current trends and prospects in operative surgery. Preparation for surgery and anesthesia. General surgical technique. Surgical instrumentation. Basic surgical techniques: tissue separation, bleeding control, application and removal of interrupted skin sutures, tying ligature knots.	LW
	Topic 5.2. Surgical approaches to abdominal organs: traditional, endoscopic. Hernias of the anterior abdominal wall, hernioplasty. Revision of the abdominal cavity for penetrating abdominal wounds. Surgeries for liver wounds. Intestinal suturing. Intestinal anastomoses. Types. Suture requirements. Suturing wounds of the stomach, small intestine, and colon. Small bowel resection. Appendectomy.	LW
	Topic 5.3. Surgical interventions on the gastrointestinal tract. Liver surgery. Surgery on the extrahepatic bile ducts. Cholecystectomy. Splenectomy.	LW
	Topic 5.4. Surgical interventions on retroperitoneal organs. Nephrectomy. Surgical interventions on pelvic and perineal organs.	LW
	Topic 5.5. Primary surgical treatment of extremity wounds. Extremity amputation. Bone and joint surgeries. Blood vessel surgeries (arteries, veins). Vascular suture. Types. Suture requirements. Peripheral nerve and tendon surgeries: nerve suturing, tendon suturing.	LW
	Topic 5.6. Craniotomy. Mastoid trepanation. Primary surgical debridement of head and neck wounds. Incisions for cellulitis and neck abscesses. Thyroid surgery. Tracheostomy.	LW
	Topic 5.7. Primary surgical treatment of chest wounds. Breast surgery. Surgical approaches to the chest organs. Principles of surgical interventions on the lungs, heart, and thoracic esophagus.	LW

* - to be filled in only for **full** -time training: *LC - lectures; LW - lab work; S - seminars.*

6. CLASSROOM EQUIPMENT AND TECHNOLOGY SUPPORT REQUIREMENTS

Table 6.1. Classroom equipment and technology support requirements

Type of academic activities	**Classroom equipment**	**Specialised educational / laboratory equipment, software, and materials for course study (**if necessary**)**

Type of academic activities	Classroom equipment	Specialised educational / laboratory equipment, software, and materials for course study (if necessary)
Lab-work	Classroom for seminars (workshops), group and individual consultations, interim and mid-term assessments, equipped with a set of specialized furniture; whiteboard (screen) and multimedia presentation equipment.	List of visual anatomical posters, tables, models, bas-reliefs. plastinated materials (preserved (cadaveric) plastinated biomaterial); wet anatomical specimens (preserved (cadaveric) biomaterial in formalin solution in glass containers). Technology support: Epson EMP-S1 multimedia projector; magnetic marker board, virtual anatomical table complete with TV.
Lab-work	Classroom for seminars (workshops), group and individual consultations, interim and mid-term assessments, equipped with a set of specialized furniture; whiteboard (screen) and multimedia presentation equipment.	Set of specialized equipment: operating microscope "Carl Zeiss Jena"; endovideosurgical complex "Azimuth"; magnetic marker board, virtual anatomical table complete with TV; sets of general and special surgical instruments; visual posters, tables, stands. Technology support: NEC VT59 multimedia projector; stable wireless Internet connection. Simulators for operative surgery: human skin, vascular, intestinal simulator, suture kits, surgical instruments.
Seminar	Classroom for seminars (workshops), group and individual consultations, interim and mid-term assessments, equipped with a set of specialized furniture; whiteboard (screen) and multimedia presentation equipment.	Set of specialized furniture: desk with faux stone top; portable shadowless lamp. Negatoscope H-48. Technology support: Epson EB-W29 multimedia projector, magnetic marker board.
Seminar	Classroom for seminars (workshops), group and individual consultations, interim and mid-term assessments, equipped with a set of specialized furniture; whiteboard (screen) and multimedia presentation equipment.	Set of specialized furniture: desk with faux stone top; portable shadowless lamp. Negatoscope H-48. Technology support: Epson EB-W29 multimedia projector, magnetic marker board.
Self-studies	Classroom for seminars (workshops), group and individual consultations, interim and mid-term assessments, equipped with a set of specialized furniture; whiteboard (screen) and multimedia presentation equipment.	Medical training tables. Technology support: Epson EMP-S1 multimedia projector, magnetic marker board.

7. RESOURCES RECOMMENDED FOR COURSE STUDY

***Main readings**:*

1) Topographic anatomy and operative surgery: textbook/A.V.Nikolaev.-Moscow.-Geotar-Media/- 2021.-672 p.
https://lib.rudn.ru:443/MegaPro/UserEntry?Action=Link_FindDoc&id=497916&idb=0
2) Topographic and clinical anatomy of the human body: the teaching aid for foreign students / I.I. Kagan, S.N. Lyashchenko, A.O. Mironchev ; I. I. Kagan, S. N. Lyashchenko, A. O. Mironchev. - Moscow : GEOTAR-Media, 2022. - 253.
URL:https://mega.rudn.ru/MegaPro/UserEntry?Action=Link_FindDoc&id=518485&idb=0
3) Topographic Anatomy and Operative Surgery: textbook / A. V. Nikolaev. - 3-rd ed. - Moscow: GEOTAR-Media, 2021. - 671 c.
4) Gray's Anatomy for Students. Volume 1 / R. L. Drake, W. A. Vogl, A.W. Mitchell. - Fourth edition. - Philadelphia: Elsevier, 2020. - 529 p.
5) Netter's Clinical Anatomy / J.T. Hansen, F.H. Netter. - 4th Edition. - Philadelphia: Elsevier, 2019. - 588 p.
6) Atlas of human anatomy/ F.H. Netter. - 6th ed.; International edition. - Philadelphia: Saunders : Elsevier, 2014. - 591 p.: il.

Additional readings:

1. Topographic and surgical anatomy of the abdomen: educaitional manual for students of 3-4 courses of the Faculty of Medicine Specialty "Medicine" / А. В. Протасов, Ш. Ф. Мекхаэль, А. Л. Кулакова, Д. Л. Титаров. - Moscow: PFUR, 2022. - 52 с.
2. Topographo-surgical anatomy and operative surgery of upper limbs: / Ш. Ф. Мекхаеэль, К. А. Лаймуна, М. Ю. Персов, А. В. Протасов. - Москва: РУДН, 2022. - 86 с. https://mega.rudn.ru:443/MegaPro/UserEntry?Action=Rudn_FindDoc&id=526845&idb=0
3. Hernia between topography and surgery = Грыжа между топографией и хирургией / A. V. Protasov, M. S. Mekhaeel, S. M. Salem, M. Y. Persov. – Moscow: Peoples' Friendship University of Russia, 2024. - 232 p. : il https://mega.rudn.ru:443/MegaPro/UserEntry?Action=Rudn_FindDoc&id=526837&idb=0
4. General surgery / V.K. Gostishchev. - Moscow.-Geotar-Media, 5th ed.-2021.-799p.
5. General surgery. The manual/ V.K. Gostishchev. - Moscow.-Geotar-Media.-2020.-220p. https://lib.rudn.ru:443/MegaPro/UserEntry?Action=Link_FindDoc&id=497901&idb=0
6. Anatomy for plastic surgery of the Face, Head and Neck/ Koichi Watanabe-Mohammadali M. Shoja, Marios Loukas, R.Shane Tubbs.-2016.-242. https://lib.rudn.ru/MegaPro/Web/SearchResult/ToPage/1#:~:text=https%3A//lib.rudn.ru%3A443/MegaPro/UserEntry%3FAction%3DRudn_FindDoc%26id%3D513494%26idb%3D0
7. Atlas of human anatomy/ F.H. Netter. - 6th ed.; International edition. - Philadelphia: Saunders : Elsevier, 2014. - 591 p.: il.

Internet sources

1. Electronic libraries (EL) of RUDN University and other institutions, to which university students have access on the basis of concluded agreements:

- RUDN Electronic Library System (RUDN ELS) http://lib.rudn.ru/MegaPro/Web
- EL "University Library Online" http://www.biblioclub.ru
- EL "Yurayt" http://www.biblio-online.ru
- EL "Student Consultant" www.studentlibrary.ru
- EL "Trinity Bridge"

2.*Databases and search engines:*

- electronic foundation of legal and normative-technical documentation http://docs.cntd.ru/
- Yandex search engine https:// www .yandex.ru/
- Google search engine https://www.google.ru/

- Scopus abstract database http://www.elsevierscience.ru/products/scopus/

Learning toolkits for self-studies during the development of the discipline

1. Lectures presentations on the themes of workshops
2. Guidelines and visual materials for self-study
3. Toolkits for computer-based test and interim and mid-term assessment preparation

* - All teaching materials for self-studing of students are placed in accordance with the current procedure on the discipline page in the RUDN LMS TUIS.

8. ASSESSMENT TOOLKIT AND GRADING SYSTEM* FOR EVALUATION OF STUDENTS' COMPETENCES LEVEL AS INTERNSHIP RESULTS

Evaluation Toolkit (ET) and a point-rating system (PRS)* for assessment the level of competence formation (part of competencies) based on the results of mastering the discipline «Topographic anatomy and operative surgery» are presented in the Appendix to this Work Program of the discipline.

* - ET and PRS are formed on the basis of the requirements of the relevant local regulatory act of the RUDN

DEVELOPERS:

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HEAD of the Department:

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