MINISTRY OF SCIENCE, HIGHER EDUCATION AND INNOVATIONS OF THE KYRGYZ REPUBLIC

Higher Education Institution "Kyrgyz-Russian Slavic University named after the First President of the Russian Federation B.N. Yeltsin"

APPROVED BY

Director ICM and BMT
(position)
S.S. Abilova
(Full name)
04.11 2026 г.

PROFESSIONAL CYCLE
Topographic anatomy and operative surgery

Working program of the discipline (Module)

Assigned to the Department **of Anatomy, Histology and Physiology**

Curriculum Code: 310501_26_1 LDi.plx
Specialty code 31.05.01 (Russian Federation) / 560001 (Kyrgyz Republic) — General Medicine

Qualification: Medical Doctor
Mode of study: Full-time

Total Workload: **5 ZET**
Total Curriculum Hours: 150
including:
Contact hours (auditorium sessions): 96
Independent Work: 23,7

Assessment Types by Semester:
pass/fail assessment: Semester 3
examination: Semester 4

Distribution of Discipline Hours by Semesters

Type of Activity / Semester (Year.Semester)	**3 (2.1)**		**4 (2.2)**		Total	
Weeks	18		18			
Type of Activity	AC	CO	AC	CO	AC	CO
Lectures	16	16	16	16	32	32
Laboratory Practicum	32	32	32	32	64	64
Including Interactive Session	0,3	0,3			0,3	0,3
Consultation hours during the examination period			0,5	0,5	0,5	0,5
Including interactive activities	3	3	3	3	6	6
Total In-class Hours	48	48	48	48	96	96
Contact Work (Face-to-Face)	48.3	48.3	48.5	48.5	96.8	96.8
Independent Work	11.7	11.7	12	12	23.7	23.7
Control Hours			29.5	29.5	29.5	29.5
Total	60	60	90	90	150	150

Curriculum ID: 310501_26_1 LDi.plx

Prepared by: A.S. Imanalieva, Senior Lecturer of the Department of Anatomy, Histology, and Physiology _____

Reviewer(s):
O.P. Kalugina, PhD in Medical Sciences, Associate Professor, Head of the Department of Anatomy, Histology, and Physiology _____

Endorsed by the Program Director: M.K. Zhamankulova
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Working Program of the Discipline
Normal Anatomy

Developed in accordance with the Federal State Educational Standard of Higher Education (FSES 3++) for the Specialist degree program in Specialty 31.05.01 "General Medicine" (Order of the Ministry of Science and Higher Education of the Russian Federation dated August 12, 2020, No. 988).

Based on the curriculum for:
Specialty 31.05.01 (Russian Federation) / 560001 (Kyrgyz Republic) "General Medicine", approved by the University Academic Council on June 26, 2026 (Protocol No. 11).

The Course Syllabus was approved at the meeting of the Department of Anatomy, Histology, and Physiology.

Protocol dated: August 26, 2026, No. 1
Program validity period: 2026–2027 academic year
Head of the Department: Olga Petrovna Kalugina _____

RECORD OF AMENDMENTS
to the Course Program (Module)
Topographic anatomy and operative surgery

No.	Basis for Amendment	Section / Item	Description of Change
1.			
2.			
3.			
4.			
5.			

1. COURSE OUTLINE OBJECTIVES	
1.1	To form a comprehensive understanding of the topographic anatomy of body regions, organs, and systems, with special attention to clinically significant anatomo-functional features.
1.2	To develop the ability to apply topographic-anatomical knowledge to substantiate diagnoses, explain the features of pathological processes, and solve diagnostic and operative-surgical tasks.
1.3	To master elementary operative skills and standard surgical techniques (e.g., tissue incision, dissection, hemostasis, and suturing).
1.4	To cultivate a professional attitude guided by the principles of medical humanism and compassion, ensuring a respectful and careful approach to anatomical specimens and cadaveric
1.5	To instill high ethical and moral standards of behavior and professionalism within the medical university's dissection rooms and anatomy laboratories.

2. PLACE OF THE COURSE IN THE EDUCATIONAL PROGRAM	
Educational Program Units: B 1. O	
2.1	**Prerequisites (Student's Preliminary Training Requirements):**
2.1.1	Chemistry
2.1.2	Biology
2.1.3	Normal (Human) Anatomy
2.1.4	Physiology
2.1.5	Physics, Mathematics
2.1.6	History of Medicine
2.1.7	Biochemistry
2.1.8	Health and Safety
2.1.9	Immunology
2.1.10	Histology, Embryology, and Cytology
2.1.11	Normal Physiology
2.1.12	Fundamentals of Informatics
2.1.13	Bioethics
2.1.14	Medical Law
2.1.15	Nursing
2.1.16	Surgical Nursing
2.1.17	Information Literacy
2.1.18	Medical Nursing
2.2	**Subsequent disciplines requiring proficiency in this course:**
2.2.1	General Surgery
2.2.2	Faculty Surgery
2.2.3	Hospital Surgery
2.2.4	Traumatology and Orthopedics
2.2.5	Pediatric Surgery
2.2.6	Urology
2.2.7	Obstetrics and Gynecology
2.2.8	Otorhinolaryngology
2.2.9	Ophthalmology
2.2.10	Pediatrics
2.2.11	Hospital Therapy
2.2.12	Endocrinology
2.2.13	Neurosurgery and Neurology
2.2.14	Forensic medicine
2.2.15	Oncology, Radiation Therapy
2.2.16	Faculty therapy
2.2.17	Pathological Anatomy
2.2.18	Anesthesiology, Resuscitation, and Intensive Care
2.2.19	Stomatology
2.2.20	Pathophysiology, Clinical Pathophysiology

2.2.21	Diagnostic Radiology
2.2.22	Procedural Nurse Assistant
2.2.23	Physician Assistant
2.2.24	Occupational Diseases
2.2.25	Infectious Diseases
2.2.26	Primary Care Physician Assistant
2.2.27	Gerontology
2.2.28	Autopsy Course
2.2.29	Sports Medicine
2.2.30	Phthisiology
2.2.31	Standards of Diagnosis and Treatment
2.2.32	Medical Rehabilitation

3. STUDENTS' COMPETENCIES RESULTING FROM THE COURCE UNIT (MODULE)	
OPC-1: Understand principles of surgical approaches and techniques **OPC-4:** Capable of using medical devices in accordance with established medical care protocols, as well as conducting patient examinations to establish a diagnosis. **GSC-1**: Analyze the topographic-anatomical structure of body regions	
Knowledge:	
Level 1	Basic methods of using medical devices and instruments.
Level 2	Methods of surgical hand preparation and surgical field preparation. Techniques for performing local anesthesia. Vishnevsky's nerve block technique. Use of general and specialized surgical instruments and suture materials.
Level 3	Subject and objectives of operative surgery. Types of surgeries: radical, palliative, and diagnostic. Concept of single-stage and multi-stage operations, urgent (emergency) and elective surgeries. Concept of asepsis and antisepsis. Classification of surgical instruments. Concept of microsurgery. Modern diagnostic equipment used in surgery.
Skills:	
Level 1	Justify the use of medical devices and instruments.
Level 2	Demonstrate the technique of tying surgical knots (square knot and surgeon's knot). Apply and remove skin sutures. Apply sutures to muscles and subcutaneous tissue. Methods of administering medications. Venesection techniques.
Level 3	Perform incisions of skin, fascia, muscles, etc.; suture wounds on skin, muscles, and tendons; expose blood vessels and nerves; ligate blood vessels in wounds; perform incisions for draining purulent infections (abscesses, phlegmons, lymphadenitis, felon, etc.); perform disarticulation of finger phalanges; perform venesection; perform puncture and catheterization of major veins (subclavian, internal jugular, femoral).
Expertise:	
Level 1	Skills in working with medical devices and instruments on biological specimens and simulators.
Level 2	Skills in palpating major bony landmarks on the human body and determining the topographic contours of organs.
Level 3	Knowledge of topographic anatomy for: substantiating diagnoses, selecting rational surgical approaches, determining the method of surgical intervention, preventing intraoperative errors and complications related to age-related and topographic-anatomical features of the region. Ability to use general and specialized surgical instruments and suture materials; apply knowledge of surgical anatomy to select rational approaches and operative interventions; perform incisions of skin, fascia, muscles, etc.; suture wounds on skin, muscles, and tendons; expose blood vessels and nerves; ligate blood vessels in wounds; perform incisions for draining purulent infections (abscesses, phlegmons, lymphadenitis, felon, etc.).

OPC-4: Apply medical devices and instruments according to clinical protocols **PC-16/18:** Perform basic surgical procedures and manipulations **IC-4:** Demonstrate proficiency in handling surgical instruments	
Knowledge:	
Level 1	General principles of human body structure and the structural-functional interrelationships of its parts. Key historical milestones in the development of anatomical science and its significance for medicine and biology. Main branches of human anatomy, along with traditional and modern methods of anatomical research. Fundamentals of anatomical terminology.
Level 2	The course covers human evolution (anthropogenesis) and ontogeny, focusing on the fundamental principles of organ development and function based on the structural organization of cells, tissues, and organs. It examines the anatomical and topographic relationships of organs and body regions in adults, children, and adolescents. Students will study the key structural and topographic features of organs and organ systems, as well as their primary functions across different age groups. Additionally, the course addresses common anatomical variations, major anomalies, and congenital malformations of organs and their systems.
Level 3	The course emphasizes the applied value of acquired knowledge in adult, pediatric, and adolescent anatomy for subsequent academic studies and future professional practice. Furthermore, it highlights the significance of fundamental research in anatomical science for the advancement of both theoretical and clinical medicine.
Skills:	
Level 1	Demonstrate proper handling and use of basic anatomical dissection instruments (e.g., forceps, scalpels). Identify and demonstrate organs, their components, and structural details on anatomical specimens. Apply correct anatomical terminology when naming structures and describing their topographic relationships.
Level 2	Identify and isolate muscles, fasciae, major blood vessels, nerves, glandular ducts, and individual organs through dissection. Identify and demonstrate organs and their key structural features on radiographs (X-ray images).
Level 3	Identify and palpate major bony and muscular landmarks on a living subject, map the surface projections of major neurovascular bundles in various body regions, and correctly name and demonstrate joint movements on the human body or anatomical models. Identify and demonstrate organs, their components, and key structural details on medical images obtained through various imaging modalities (e.g., X-rays, Computed Tomography (CT), and Magnetic Resonance Imaging (MRI) scans).
Expertise:	
Level 1	Utilize scientific literature and apply basic information processing technologies.

PC-11: Prepared to participate in providing emergency medical care in situations requiring urgent medical intervention. **PC-12:** Identify normal and pathological anatomical structures"	
Knowledge:	
Level 1	Anatomical, physiological, age- and sex-specific, and individual characteristics of human body structure and development. General principles of the layered structure of the human body.
Level 2	Provide topographic anatomical rationale for medical care techniques
Level 3	Topographic anatomy of specific body regions; clinical anatomy of internal organs, fascial spaces, neurovascular bundles, bones, and major joints, as well as areas of weakness of the abdominal wall; collateral circulation in cases of occlusion of major blood vessels; zones of motor and sensory innervation by major nerves; age-related features of the structure, shape, and position of organs; and the most common congenital malformations, including their nature and principles of surgical correction.
Skills:	
Level 1	Demonstrate the clinical relevance of topographic anatomy and operative surgery in patient care.

Level 2	Apply topographic anatomical knowledge to substantiate a diagnosis, select an optimal surgical approach, and determine the appropriate method of surgical intervention. Utilize this knowledge to prevent intraoperative errors and complications related to age-related and topographic-anatomical features of the region, and demonstrate proficiency in handling general and specialized surgical instruments.
Expertise:	
Level 1	Possess skills in identifying key topographic-anatomical landmarks and applying practical clinical skills in patient care. Demonstrate proficiency in palpating major bony landmarks on a living subject, as well as delineating the topographic contours of organs and major vascular and nerve trunks.
Level 2	Apply topographic anatomical knowledge to substantiate a clinical diagnosis, select an optimal surgical approach, determine the appropriate surgical technique, and prevent intraoperative errors and complications related to age-related and regional topographic-anatomical features. Demonstrate proficiency in handling general and specialized surgical instruments and suture materials. Perform basic surgical techniques: incisions of the skin, fascia, and muscles; suturing of wounds in the skin, muscles, and tendons. Expose and manage neurovascular structures: isolate blood vessels and nerves; suture and ligate blood vessels within a wound. Perform incisions for drainage of purulent infections (abscesses, phlegmons, lymphadenitis, felon/panaritium, etc.). Execute specific surgical procedures: Disarticulation of finger phalanges. Venesection (venotomy). Puncture and catheterization of major veins (subclavian, internal jugular, femoral). Arthrocentesis (joint puncture) of major joints: shoulder, elbow, hip, knee, and ankle. Osteoperforation of major bones in cases of osteomyelitis. Management of bone, periosteum, muscles, vessels, nerves, and skin during limb amputation. Primary surgical debridement of wounds on the head and face. Decompressive trepanation of the skull.
Level 3	Utilize educational, scientific, and popular science literature, as well as online resources, for professional practice.

As a result of mastering the discipline, the student must

3.1	**Knowledge:**
3.1.1	Anatomical, physiological, age-related, sex-related, and individual characteristics of human body structure and development.
3.1.2	General principles of the layered structure of the human body.
3.1.3	Topographic anatomy of specific body regions.
3.1.4	Clinical anatomy of internal organs, fascial spaces, neurovascular bundles, bones, major joints, and areas of weakness in the abdominal wall. Collateral circulation in cases of occlusion (obstruction) of major blood vessels.
3.1.5	Zones of motor and sensory innervation by major nerves.
3.1.6	The most common congenital malformations, including their nature and principles of surgical correction.
3.2	**Skills:**
3.2.1	Proficiency in handling general and specialized surgical instruments and suture materials.
3.2.2	Indications and techniques for simple emergency surgical interventions: Primary surgical debridement of wounds. Cervical vagosympathetic block according to A.V. Vishnevsky. Resection trepanation of the skull (Burr hole trepanation). Tracheostomy. Cricothyrotomy. Incision and drainage of a breast abscess. Thoracentesis (pleural cavity puncture). Suturing of a penetrating wound of the pleural cavity. Pericardiocentesis (pericardial puncture). Appendectomy.

	Laparotomy and suturing of an abdominal wall wound.
3.2.3	Essence, indications, and main stages of more complex emergency and elective surgical interventions: Arthrocentesis (joint puncture). Principles of amputation and disarticulation. Osteoplastic craniotomy (osteoplastic trepanation of the skull). Radical mastectomy. Suturing of a cardiac wound (cardiorrhaphy). Exploration (revision) of the abdominal cavity organs. Suturing of gastric and intestinal wounds. Gastroentero- and enteroenteroanastomoses. Suturing of wounds in parenchymal organs (liver, spleen, kidneys). Exploration of the pelvic organs. Lumbar puncture. Bladder puncture, cystotomy, and suprapubic cystostomy (high bladder section). Intrapelvic block according to Shkolnikov-Selivanov. Cesarean section. Surgery for hydrocele of the tunica vaginalis, phimosis, and paraphimosis. Puncture of the posterior vaginal fornix (culdocentesis), episiotomy, and perineotomy.
3.2.4	Utilize educational, scientific, and popular science literature, as well as online resources, for professional practice.
3.2.5	Palpate major bony landmarks on a living subject and delineate the topographic contours of organs and major vascular and nerve trunks.
3.2.6	Apply topographic anatomical knowledge to substantiate a clinical diagnosis, select an optimal surgical approach, determine the appropriate method of surgical intervention, and prevent intraoperative errors and complications related to age-related and regional topographic-anatomical features.
3.2.7	Demonstrate proficiency in handling general and specialized surgical instruments, and perform surgical techniques and procedures on biological specimens, anatomical models, and simulators.
3.3	**Expertise:**
3.3.1	Palpate major bony landmarks on a living subject and delineate the topographic contours of organs and major vascular and nerve trunks. Apply topographic anatomical knowledge to substantiate a clinical diagnosis, select an optimal surgical approach, determine the appropriate surgical technique, and prevent intraoperative errors and complications related to age-related and regional anatomical features. Demonstrate proficiency in handling general and specialized surgical instruments and suture materials.
3.3.2	Basic Surgical Techniques: Perform incisions of the skin, fascia, and muscles. Suture wounds of the skin, muscles, and tendons. Expose blood vessels and nerves; suture and ligate blood vessels within a wound. Perform incisions for the drainage of purulent infections (abscesses, phlegmons, lymphadenitis, felon/panaritium, etc.). Perform primary surgical debridement of head and face wounds.
3.3.3	Perform decompressive trepanation of the skull, cervical vagosympathetic block according to A.V. Vishnevsky, lumbar puncture (spinal tap).
3.3.4	Perform a lower tracheostomy and cricothyrotomy, thoracentesis and drain the pleural cavity. Suture chest wall wounds. Perform an intercostal nerve block, pericardiocentesis (pericardial puncture) using Larrey's technique. Suture a cardiac wound (cardiorrhaphy) in cases of trauma.
3.3.5	Perform laparotomies: midline, right and left subcostal, laparocentesis for laparoscopic manipulations, hernia repair (herniorrhaphy) for inguinal and umbilical hernias. Suture wounds of the stomach, small, and large intestines. Create a colostomy. Perform an appendectomy. Suture a perforated gastric ulcer. Perform a gastrostomy (Witzel or Töpfer technique), gastric resection (Billroth I). Suture liver and splenic wounds in trauma. Perform classical cholecystectomy (from the fundus or from the neck) and splenectomy.

3.3.6	Perform a paranephric block. Suture renal wounds in trauma and drain retroperitoneal spaces. Perform a cystostomy, perform Ross or Bergmann operations for hydrocele, circumcision for phimosis, orchiopexy (testicular descent) for cryptorchidism.
3.3.7	Perform disarticulation of finger phalanges, venesection (venotomy), puncture and catheterization of major veins (subclavian, internal jugular, femoral), arthrocentesis (joint puncture) of major joints: shoulder, elbow, hip, knee, and ankle, osteoperforation of major bones for osteomyelitis. Manage bone, periosteum, muscles, vessels, nerves, and skin during limb amputation. Perform appropriate incisions for draining purulent mastitis in adults and children.

4. Course (module) structure and content							
Code/No.	**Topic / Type of Class**	**Semester**	**Hours**	**Competencies**	**Bibliography**	**Interactive Sessions**	**Notes**
	Module 1 "Topographic anatomy and operative surgery of the upper limb"						
1.1	Introduction to Topographic Anatomy. Topographic Anatomy of the Upper Limb. /Lect./	3	2	GSC-1, OPC-1, PC-12, PC-27	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2	0	
1.2	Introduction to Operative surgery. Operative surgery of the upper limb. /Lect./	3	2	GSC-1, OPC-1, PC-12, PC-27	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2	0	
1.3	Introduction to topographic anatomy. Topographic anatomy of the shoulder girdle and arm. /Pr./	3	2	OPC-4, IC-4, PC-1, PC-4, PC-16/18, GSC-8	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2	0	
1.4	Topographic anatomy of the forearm and hand. / Pr./	3	2	OPC-4, IC-4, PC-1, PC-4, PC-16/18, GSC-8	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2 L2.4 L2.3	0	
1.5	Methods of operative surgery. General surgical technique. /Pr./	3	2	OPC-4, IC-4, PC-1, PC-4, PC-16/18, GSC-8	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2	0	
1.6	Operative surgery of the upper limb. / Pr./	3	2	OPC-4, IC-4, PC-1, PC-4, PC-16/18, GSC-8	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2 L2.4 L2.3	1	Working with the "Pirogov" interactive table

1.7	Neurovascular bundles and surgical approaches of the upper limb. Work with literature recourses and etc., including in an interactive way. Work with electronic learning resources. /In./	3	4	OPC-4, IC-4, PC-1, PC-4, PC-16/18, GSC-8	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2 L2.4 L2.3 L2.5	0	
1.8	Midterm: Topographic anatomy and operative surgery of the upper limb / Pr./	3	2	OPC-4, IC-4, PC-1, PC-4, PC-16/18, GSC-8	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2 L2.4 L2.3 L2.5	0	
	Module 2 "Topographic anatomy and operative surgery of the lower limb"						
2.1	Topographic Anatomy of the Lower Limb. /Lect./	3	2	GSC-1, OPC-1, PC-12, PC-27	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2 L2.4 L2.3	0	
2.2	Operative surgery of the lower limb. /Lect./	3	2	GSC-1, OPC-1, PC-12, PC-27	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2 L2.4 L2.3	0	
2.3	Topographic anatomy of the gluteal region and thigh /Pr./	3	2	OPC-4, IC-4, PC-1, PC-4, PC-16/18, GSC-8	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2 L2.4 L2.3 L2.5	0	
2.4	Topographic anatomy of the leg, ankle and foot. /Pr./	3	2	OPC-4, IC-4, PC-1, PC-4, PC-16/18, GSC-8	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2 L2.4 L2.3 L2.5	1	Working with the "Pirogov" interactive table

2.5	Collateral circulation of the lower limb. Femoral hernia. Surgical interventions on the veins and nerves. Incisions for purulent-inflammatory conditions of the lower limb. /Pr./	3	2	OPC-4, IC-4, PC-1, PC-4, PC-16/18, GSC-8	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2 L2.4 L2.3 L2.5	0	
2.6	Surgical approaches to the joints of the lower limb /Pr./	3	2	OPC-4, IC-4, PC-1, PC-4, PC-16/18, GSC-8	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2 L2.5	0	
2.7	Neurovascular bundles and surgical approaches of the lower limb. Work with literature recourses and etc., including in an interactive way. Work with electronic learning resources. /In./	3	4	OPC-4, IC-4, PC-1, PC-4, PC-16/18, GSC-8	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2 L2.4 L2.3 L2.5	0	
2.8	Midterm: Topographic anatomy and operative surgery of the Lower limb. /Pr./	3	2	OPC-4, IC-4, PC-1, PC-4, PC-16/18, GSC-8	L1.3 L2.1L3.2 L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2 L2.4 L2.3 L2.5	0	
	Module 3 "Topographic anatomy and operative surgery of the head and neck"						
3.1	Topographic anatomy the cerebral part of the head and face. /Lect./	3	2	GSC-1, OPC-1, PC-12, PC-27	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2 L2.4 L2.3 L2.5 L2.6	0	
3.2	Topographic anatomy of the neck and organs of the neck. Layers and triangles of the neck. /Lect./	3	2	GSC-1, OPC-1, PC-12, PC-27	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2 L2.4 L2.3 L2.5 L2.6	0	

3.3	Operative surgery the cerebral part of the head and face. /Lect./	3	2	GSC-1, OPC-1, PC-12, PC-27	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2 L2.4 L2.3 L2.5 L2.6	0	
3.4	Operative surgery the neck. Incisions for purulent-inflammatory diseases of the neck. /Lect./	3	2	GSC-1, OPC-1, PC-12, PC-27	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2 L2.4 L2.3 L2.5 L2.6	0	
3.5	Topographic anatomy the cerebral part of the head and face. /Pr./	3	2	OPC-4, IC-4, PC-1, PC-4, PC-16/18, GSC-8	L1.1L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2 L2.4 L2.3 L2.5 L2.6	1	Working with the "Pirogov" interactive table
3.6	Topographic anatomy of the neck. Layers and triangles of the neck. /Pr./	3	2	OPC-4, IC-4, PC-1, PC-4, PC-16/18, GSC-8	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2 L2.4 L2.3 L2.5 L2.6	0	
3.7	Topographic anatomy the of the neck organs. /Pr./	3	2	OPC-4, IC-4, PC-1, PC-4, PC-16/18, GSC-8	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2 L2.4 L2.3 L2.5 L2.6	0	
3.8	Operative surgery the cerebral part of the head and face. /Pr./	3	2	OPC-4, IC-4, PC-1, PC-4, PC-16/18, GSC-8	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2 L2.4 L2.3 L2.5 L2.6	0	
3.9	Operative surgery the neck. Incisions for purulent-inflammatory diseases of the neck. /Pr./	3	2	OPC-4, IC-4, PC-1, PC-4, PC-16/18, GSC-8	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2 L2.4 L2.3 L2.5 L2.6	0	

3.10	Neurovascular bundles and surgical approaches of the neck regions and head. Work with literature recourses and etc., including in an interactive way. Work with electronic learning resources. /In./	3	3,7	OPC-4, IC-4, PC-1, PC-4, PC-16/18, GSC-8	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2 L2.4 L2.3 L2.5 L2.6	0	
3.11	Midterm: Topographic anatomy and operative surgery of the head and neck. /Pr./	3	2	OPC-4, IC-4, PC-1, PC-4, PC-16/18, GSC-8	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2 L2.4 L2.3 L2.5 L2.6	0	
3.12	"Final week" /Pr./	3	2	OPC-4, IC-4, PC-1, PC-4, PC-16/18, GSC-8	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2 L2.4 L2.3 L2.5 L2.6	0	
	Module 4 "Topographic anatomy and operative surgery of the thorax"						
4.1	Topographic anatomy and operative surgery of thoracic wall, mediastinum and breast. /Lect./	4	2	GSC-1, OPC-1, PC-12, PC-27	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2 L2.4 L2.3	0	
4.2	Topographic anatomy of heart, trachea, lungs and diaphragm. Operative surgery of heart and lungs. Surgical technique. CPB. /Lect./	4	2	GSC-1, OPC-1, PC-12, PC-27	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2 L2.4 L2.3	0	
4.3	Topographic anatomy of thoracic wall, mediastinum and breast. /Pr./	4	2	OPC-4, IC-4, PC-1, PC-4, PC-16/18, GSC-8	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2 L2.4 L2.3	0	
4.4	Operative surgery of thoracic wall, mediastinum and breast. /Pr./	4	2	OPC-4, IC-4, PC-1, PC-4, PC-16/18, GSC-8	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2 L2.4 L2.3	0	

4.5	Topographic anatomy of heart, trachea, lungs and diaphragm. /Pr./	4	2	OPC-4, IC-4, PC-1, PC-4, PC-16/18, GSC-8	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2 L2.4 L2.3	0	
4.6	Operative surgery of heart and lungs. Surgical technique. CPB. /Pr./	4	2	OPC-4, IC-4, PC-1, PC-4, PC-16/18, GSC-8	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2 L2.4 L2.3	1	Working with the "Pirogov" interactive table
4.7	Topographic anatomy of the thorax and surgical approaches to the chest organs. Work with literature resources, including interactive methods. Work with electronic learning resources. /In./	4	4	OPC-4, IC-4, PC-1, PC-4, PC-16/18, GSC-8	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2 L2.4 L2.3 L2.5	0	
4.8	Midterm: Topographic anatomy and operative surgery of the thorax /Pr./	4	2	OPC-4, IC-4, PC-1, PC-4, PC-16/18, GSC-8	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2 L2.4 L2.3 L2.5	0	
	Module 5 "Topographic anatomy and operative surgery of the abdomen"						
5.1	Topographic anatomy of abdominal wall. Weak places of abdomen. Operative surgery of abdominal wall. Methods repair in abdominal hernias. /Lect./	4	2	GSC-1, OPC-1, PC-12, PC-27	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2 L2.4 L2.3	0	
5.2	Topographic anatomy of the liver, gallbladder, stomach, pancreas, spleen and intestine /Lect./	4	2	GSC-1, OPC-1, PC-12, PC-27	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2 L2.4 L2.3	0	

5.3	Operative surgery of the liver, gallbladder, stomach, pancreas, spleen and intestine. /Lect./	4	2	GSC-1, OPC-1, PC-12, PC-27	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2 L2.4 L2.3	0	
5.4	Topographic anatomy of abdominal wall. Weak places of abdomen. /Pr./	4	2	OPC-4, IC-4, PC-1, PC-4, PC-16/18, GSC-8	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2 L2.4 L2.3	0	
5.5	Operative surgery of abdominal wall. Methods repair in abdominal hernias. /Pr./	4	2	OPC-4, IC-4, PC-1, PC-4, PC-16/18, GSC-8	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2 L2.4 L2.3	0	
5.6	Topographic anatomy of the liver, gallbladder, stomach, pancreas and spleen. /Pr./	4	2	OPC-4, IC-4, PC-1, PC-4, PC-16/18, GSC-8	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2 L2.4 L2.3	0	
5.7	Operative surgery of the liver, gallbladder, stomach, pancreas and spleen. /Pr./	4	2	OPC-4, IC-4, PC-1, PC-4, PC-16/18, GSC-8	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2 L2.4 L2.3	0	
5.8	Topographic anatomy and operative surgery of small and large intestines. /Pr./	4	2	OPC-4, IC-4, PC-1, PC-4, PC-16/18, GSC-8	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2 L2.4 L2.3	1	Working with the “Pirogov” interactive table
5.9	Topographic anatomy of the abdomen and surgical approaches to the abdominal organs. Work with literature resources, including interactive methods. Work with electronic learning resources. /In/	4	4	OPC-4, IC-4, PC-1, PC-4, PC-16/18, GSC-8	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2 L2.4 L2.3	0	
5.10	Midterm: Topographic anatomy and operative surgery of the abdomen /Pr./	4	2	OPC-4, IC-4, PC-1, PC-4, PC-16/18, GSC-8	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2 L2.4 L2.3 L2.5	0	

	Module 6 "Topographic anatomy and operative surgery of the pelvis"						
6.1	Topographic anatomy and operative surgery of the lumbar region, retroperitoneal space, pelvic wall and perineum /Lect./	4	2	GSC-1, OPC-1, PC-12, PC-27	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2 L2.4 L2.3	0	
6.2	Topographic anatomy and operative surgery of the female genital organs. /Lect./	4	2	GSC-1, OPC-1, PC-12, PC-27	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2 L2.4 L2.3	0	
6.3	Topographic anatomy and operative surgery of the male genital organs. /Lect./	4	2	GSC-1, OPC-1, PC-12, PC-27	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2 L2.4 L2.3 L2.5 L2.6		
6.4	Topographic anatomy of the lumbar region, retroperitoneal space, pelvic wall and perineum. /Pr./	4	2	OPC-4, IC-4, PC-1, PC-4, PC-16/18, GSC-8	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2 L2.4 L2.3	0	
6.5	Operative surgery of the lumbar region, retroperitoneal space, pelvic wall and perineum /Pr./	4	2	OPC-4, IC-4, PC-1, PC-4, PC-16/18, GSC-8	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2 L2.4 L2.3	0	
6.6	Topographic anatomy and operative surgery of the female genital organs. /Pr./	4	2	OPC-4, IC-4, PC-1, PC-4, PC-16/18, GSC-8	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2 L2.4 L2.3	0	
6.7	Topographic anatomy and operative surgery of the male genital organs. /Pr./	4	2	OPC-4, IC-4, PC-1, PC-4, PC-16/18, GSC-8	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2 L2.4 L2.3	1	Working with the "Pirogov" interactive table

6.8	Topographic anatomy of the pelvis and surgical approaches to the pelvic organs. Work with literature resources, including interactive methods. Work with electronic learning resources. /In./	4	4	OPC-4, IC-4, PC-1, PC-4, PC-16/18, GSC-8	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2 L2.4 L2.3 L2.5	0	
6.10	Midterm: Topographic anatomy and operative surgery of the pelvis /Pr./	4	2	OPC-4, IC-4, PC-1, PC-4, PC-16/18, GSC-8	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2 L2.4 L2.3 L2.5	0	
6.11	Final week /Pr./	4	2	OPC-4, IC-4, PC-1, PC-4, PC-16/18, GSC-8	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2 L2.4 L2.3 L2.5 L2.6	0	
6.12	Exam	4		OPC-4, IC-4, PC-1, PC-4, PC-16/18, GSC-8	L1.1 L1.2 L1.3 L1.4 L1.5 L1.6 L2.1 L2.2 L2.4 L2.3 L2.5 L2.6	0	

5. FUND OF ASSESSMENT TOOLS

5.1. Current Control Questions and Assignments

Questions to assess the level of KNOWLEDGE (Know):

- Topographic anatomy of specific body regions, including the layered structure and spatial relationships of organs.
- Clinical anatomy of internal organs, fascial spaces, neurovascular bundles, bones, and major joints, as well as areas of weakness in the abdominal wall.
- Principles of surgical approaches, operative techniques, and the classification of surgical interventions (radical, palliative, diagnostic; elective, urgent).
- Collateral circulation pathways in cases of major vessel occlusion, and zones of motor and sensory innervation by major nerves.
- Age-related anatomical features and the most common congenital malformations, including their nature and principles of surgical correction.
- Fundamentals of asepsis and antisepsis, and the classification of surgical instruments and suture materials.

Questions to assess the level of SKILLS (Be able to):

- Identify and demonstrate organs, their components, and neurovascular structures on anatomical specimens (cadavers) and models.
- Palpate major bony and muscular landmarks on a living subject and map the surface projections of organs and neurovascular bundles.
- Interpret diagnostic imaging (radiographs, CT, and MRI scans) to identify organs and their topographic relationships.
- Correctly handle, assemble, and pass general and specialized surgical instruments and suture materials.
- Perform basic surgical techniques on simulators (e.g., tying surgical knots, skin and muscle suturing, simple tissue incisions).

Questions to assess the level of MASTERY / EXPERTISE (Proficiency):

- Perform elementary surgical manipulations (incision, dissection, hemostasis, suturing, vessel ligation) on biological specimens or simulators.
- Apply topographic anatomical knowledge to substantiate clinical diagnoses, select rational surgical approaches, and prevent intraoperative complications.
- Solve clinical situational tasks requiring the synthesis of topographic anatomy and operative surgery principles (e.g., choosing an optimal approach for a specific pathology or predicting complications).
- Demonstrate strict adherence to aseptic and antiseptic protocols during simulated surgical procedures.

Appendix 1. Questions for Midterm Assessment

Appendix 2. Exam ticket variants

5.2. Course papers themes

Topics for student research papers/essays:

1. Topographic anatomy and surgical approaches to the anterior abdominal wall.
2. Clinical anatomy of the inguinal region and hernia repair techniques.
3. Topographic anatomy of the neck: fascial spaces, neurovascular bundles, and surgical approaches.
4. Surgical anatomy of the thoracic cavity: pleural spaces, mediastinum, and operative techniques.
5. Topographic anatomy of the upper limb: neurovascular bundles and surgical interventions.
6. Clinical anatomy of the lower limb: vascular access, fascial compartments, and amputation levels.
7. Surgical anatomy of the abdominal organs: liver, stomach, intestines, and operative procedures.
8. Topographic anatomy of the pelvic organs and surgical approaches in urology and gynecology.
9. Surgical anatomy of the head and neck: cranial base, facial regions, and operative techniques.
10. Complications of surgical interventions: anatomical basis and prevention strategies.

5.3. Assessment fund
Appendix 3. Problem-based clinical questions.
Appendix 4. Tests.

5.4. List of assessment tools
Appendix 6. List of types of assessment scales.

6. EDUCATIONAL-METHODOLOGICAL AND INFORMATION SUPPORT OF THE DISCIPLINE (MODULE)			
6.1. Recommended reading			
6.1.1. Basic Literature			
	Authors, compilers	Title	Publisher, year
L1.1	Snell, R. S.	Snell's Clinical Anatomy by Regions.	10th Edition. Philadelphia: Wolters Kluwer, 2019.
L1.2	Netter, F. H.	Atlas of Human Anatomy.	8th Edition. Philadelphia: Elsevier, 2022.
L1.3	Chaurasia, B. D.	BD Chaurasia's Human Anatomy: Regional and Applied Dissection and Clinical. Volumes 1, 2, and 3.	9th/10th Edition. New Delhi: CBS Publishers & Distributors, 2023–2024.
L1.4	Fischer, J. E., et al.	Fischer's Mastery of Surgery.	8th Edition. Philadelphia: Wolters Kluwer / Lippincott Williams & Wilkins, 2024.
L1.5	Singh, I.	Textbook of Anatomy with Clinical Correlations. Volumes 1, 2, and 3.	Latest Edition (3rd/4th ed. with recent reprints). New Delhi: Jaypee Brothers Medical Publishers, 2020–2023.
L1.6	Kovanov, V. V.	Operative Surgery and Topographic Anatomy.	6th Edition. Moscow: GEOTAR-Media, 2021.
6.1.2. Additional literature			
Authors,	Title	Publisher, year	
L2.1	Tulloh, B., & Lee, D.	Foundations of Operative Surgery: An Introduction to Surgical Techniques.	1st Edition. Oxford: Oxford University Press, 2007.
L2.2	Fuller, J. K.	Surgical Technology: Principles and Practice.	8th Edition. St. Louis: Saunders, 2021.
L2.3	Mackinnon, S. E.	Nerve Surgery	2nd Edition. New York: Thieme Medical Publishers, 2024.
L2.4	Wilson, S. E., Jimenez, J. C., Veith, F. J., Naylor, A. R., & Buckels, J. A. C.	Vascular Surgery: Principles and Practice.	4th Edition. Boca Raton: CRC Press (Taylor & Francis Group), 2017.
L2.5	Khatri, V. P.	Atlas of Advanced Operative Surgery.	1st Edition. Philadelphia: Saunders (Elsevier), 2012.
L2.6	Seckel, B. R.	Facial Danger Zones: Avoiding Nerve Injury in Facial Plastic Surgery.	2nd Edition. New York: Thieme Medical Publishers / Quality Medical Publishing, 2010.
6.2. Online resources			
Э1	Operative surgery		http://www.benthamscience.com/open/a-z.htm
Э2	Operative surgery		http://www.elsevier.com/about/open-access/open-archives
Э3	Operative surgery		http://www.ncbi.nlm.nih.gov/pubmed/
Э4	Operative surgery		http://www.ispub.com/

6.3. List of Information and Education Technologies	
6.3.1 Competence-based Educational Technologies	
6.3.1.1	Traditional educational technologies: To organize the study of the discipline, traditional educational technologies are used, focused on the transfer of fundamental knowledge and demonstration of surgical techniques. Lecture material is provided to students using multimedia equipment. Traditional educational technologies include: explanatory and illustrative lectures, demonstrations on anatomical specimens (cadavers) and models.
6.3.1.2	Innovative and interactive educational technologies: Interactive classes that form systemic clinical thinking and the ability to generate ideas when solving various situational problems. Innovative educational technologies include: problem-based learning (PBL), analysis of clinical cases (situational tasks), student reports (abstracts, presentations) on surgical approaches, and interactive work with 3D anatomy software.
6.3.1.3	Information and digital educational technologies: Independent use of computer equipment, virtual anatomy tables (e.g., Anatomage), surgical simulators, and Internet resources by a student to perform practical tasks, virtual dissections, and independent work.
6.3.2. List of Information Reference systems and software	
6.3.2.1	Information and methodological resource - https://vk.com/public192062648 in Russian
6.3.2.2	Information systems Medline, PubMed, Web of Science, Scopus, Cochrane Library.
6.3.2.3	Specialized anatomical and surgical resources: Thieme MedOne (Medical Education), Complete Anatomy (3D4Medical / Elsevier), Visible Body, JoVE (Journal of Visualized Experiments - Surgery section).
6.3.2.4	Scientific electronic library - http://elibrary.ru/
6.3.2.5	Russian State Library http://www.rsl.ru/
7. COURSE (MODULE) LOGISTICS	
7.1	Theoretical classes (lectures) are held in lecture-type classrooms equipped for 150 seats.
7.2	Practical classes are held in anatomy laboratories and surgical skills laboratories, equipped with anatomical tables and surgical workstations for 10–14 students each.
7.3	Multimedia complex (laptop, projector, screen) for demonstration of surgical techniques, topographic anatomy atlases, and diagnostic imaging (X-ray, CT, MRI).
7.4	Interactive whiteboards and traditional chalkboards for drawing topographic schemes and surgical approaches.
7.5	Classroom equipment and teaching aids: • Anatomical models and mannequins of body regions, organs, and systems; • General and specialized surgical instrument sets (scalpels, forceps, scissors, needle holders, clamps, retractors); • Suture materials (absorbable and non-absorbable); • Surgical simulators and training pads for practicing incisions, suturing, and knot-tying; • Topographic anatomy atlases (Netter, Sobotta, Rohen) and operative surgery textbooks; • Diagnostic imaging materials (radiographs, CT and MRI scans); • Educational films and video materials demonstrating surgical procedures; • Electronic versions of lectures and interactive 3D anatomy software (e.g., Complete Anatomy, Anatomage Table).

8. METHODOLOGICAL GUIDELINES FOR STUDENTS ON MASTERING THE DISCIPLINE (MODULE)

Appendix 5. Discipline flow chart

8.1. Formative Assessment (Current Control)

Studying the theoretical component of this discipline is designed not only to deepen and consolidate the knowledge acquired in class but also to foster students' clinical reasoning, initiative, and time-management skills.

Independent student work includes:

Reading recommended literature and mastering the theoretical material of the discipline.
Utilizing verified internet resources and medical databases.
Preparation for various forms of assessment (tests, practical exams, OSCE).
Drawing topographic schemes, surgical approaches, and incisions in a practical notebook.
Identifying and describing anatomical structures on cadaveric specimens, anatomical models, and diagnostic imaging (X-ray, CT, MRI).
Students are advised to plan their study time throughout the semester, ensuring regular review of the material. Lecture content should be systematically reviewed and supplemented with information from recommended textbooks and current medical periodicals.
For each topic, students should read the recommended literature and create concise summaries of key provisions, anatomical terms, and fundamental concepts required for subsequent topics. To expand their knowledge, students are encouraged to use medical databases and resources recommended by the instructor.

8.2. Midterm and Final Assessment Preparation

To prepare for control works or practical exams, students must:

Review the relevant chapters of textbooks and surgical manuals.
Utilize lecture notes and materials from practical sessions.
Review topographic schemes and practice identifying structures on anatomical models or simulators.
Test Preparation: Students should thoroughly review lecture materials and corresponding study guides.
Reading additional recommended literature is highly encouraged.

8.3. Types of Independent Work Tasks

As part of studying the discipline, the following types of independent work are utilized:
Independent study of theoretical course topics.
Preparation of oral answers to control questions provided after each topic.
Completion of assigned homework (e.g., drawing topographic diagrams).
Writing academic essays or clinical case reports.
Preparation for practical exercises and assessments on anatomical specimens and simulators.
Preparation of reports and multimedia presentations on surgical approaches.
Preparation for interactive lessons (e.g., clinical case discussions).
Preparation for multiple-choice and short-answer tests.
Solving situational (clinical) problems covering all studied topics.
Drawing topographic diagrams and surgical incisions in a practical notebook.

8.4. Preparing for a Lecture

The lecture is a fundamental form of educational organization that introduces new material, clarifies complex concepts, systematizes knowledge, and provides professional orientation. To maximize productivity, students should:
Identify the lecture topic from the thematic plan or instructor's announcement.
Preview the relevant textbook chapters and study guides.
Understand the topic's relevance to their future clinical and surgical practice.

Note down key anatomical and surgical terms.
Attempt to answer preliminary control questions for the topic.
Create mind maps or concept clusters to organize information.
Identify any unclear concepts.
Formulate specific questions to ask the lecturer during or after the session.

8.5. How to Take Effective Lecture Notes

Note-taking (from Latin conspectus, meaning "a view" or "summary") is a skill that requires practice.
Tips for effective note-taking:
Do not transcribe verbatim. Attempting to write down everything the instructor says leads to incomplete sentences and loss of logical flow. Focus on capturing the essentials.
Distinguish primary from secondary. Learn to identify main concepts, but do not omit examples and illustrations, as they are crucial for later understanding.
Be concise and logical. Notes should be structured like a detailed outline of the lecture.
Reproduce visuals. Any diagrams, topographic schemes, or tables presented must be accurately drawn in your notebook.
Use visual cues. Use color-coding or symbols during the lecture to highlight key points (e.g., "!" for important, "?" for clarification needed, "NB" for nota bene / pay attention).
Leave margins. Leave wide margins in your notebook for later additions, comments, or clarifications.
Highlight semantic blocks. Use indentation or highlighting to separate distinct parts of the information.
Develop abbreviations. Create a personal system of abbreviations for frequently used anatomical or surgical terms to write less and listen more.

8.6. Solving Situational (Clinical) Tasks

Solving clinical scenarios is designed to develop the following student skills:
Analyzing and systematizing anatomical and surgical knowledge.
Integrating topographic and physiological features to build a diagnostic hypothesis and a surgical action algorithm.
Argumentatively defending a clinical viewpoint.
Considering alternative perspectives and evidence.
Working effectively in a medical team.

8.7. Practical Classes

Practical sessions in Topographic Anatomy and Operative Surgery are conducted in specially equipped anatomy laboratories and surgical skills centers. Instructors employ a creative, hands-on approach to enhance the quality of students' practical knowledge. When discussing topics, interactive teaching methods are highly recommended, such as clinical case discussions, concept mapping, "jigsaw" (mosaic) learning, and Venn diagrams to compare surgical approaches.

8.8. Interactive Lessons

The primary advantage of interactive lessons is the use of simulated real-world clinical scenarios, which develop information-seeking skills and significantly enhance students' clinical reasoning and creativity. Visual aids, anatomical models, multimedia presentations, and surgical videos facilitate the perception of theoretical material, while solving test and situational tasks consolidates knowledge and develops analytical thinking. The digitalization of medicine necessitates proficiency in educational and assessment software.

8.9. Distance Learning

When necessary, lectures, practical classes, and assessments may be conducted remotely online.
Lectures and seminars can be held via platforms such as Zoom, Google Meet, or Microsoft Teams.
Written assignments (e.g., topographic notebooks, case reports, or photo/video verification of practical skills on simulators) can be submitted via email, messaging apps, or through the university's Learning Management System (e.g., Google Classroom, Moodle).
Educational and methodological materials are also available on the department's official resources (e.g., university website, official social media pages).
The content of distance learning is strictly aligned with the thematic plan of the discipline.

Appendix 1.

Midterm Assessment Questions (Semester I)

Theoretical Questions for the Module: "Topographic Anatomy and Operative Surgery of the Upper Limb"

1. What is the term for the excision of the peripheral (distal) part of an organ?
2. What is the term for the complete removal of an organ?
3. What is the term for the cutting of tissue?
4. What is the term for the removal of a part of an organ?
5. What is the term for puncturing or piercing a surface?
6. What is the term for the surgical fixation of an organ to another structure?
7. What is the term for stitching an organ or tissue?
8. What is the term for the incision of an organ's wall?
9. What is the term for a surgical connection between two organs or vessels?
10. What is the term for the insertion of an artificial organ or tissue?
11. Identify the instruments used for manipulation
12. Identify the cutting and dissecting instruments
13. Identify the grasping or holding instruments
14. Identify the viewing instruments
15. Which instrument is used for holding surgical needles?
16. What is a bowel clamp used for?
17. What is diathermy used for?
18. What is a speculum used for?
19. Which instrument is used for exploring a fistula tract?
20. Which instrument improves the view of the surgical field?
21. Which instrument is used to retract or open up tissue?
22. Which instrument has a reusable handle with replaceable blades?
23. Which instrument is used to cut tissue and provide coagulation?
24. Which instrument is necessary for placing sutures in tissue?
25. Which instrument is used to clear the surgical field by removing fluids?
26. What principles must be followed when making a surgical incision?
27. Which part of the needle is grasped by the needle holder?
28. Which part of the needle pierces the tissue?
29. Which type of needle is used for friable tissue?
30. Which type of needle is used for skin?
31. Which type of needle is used for tendon repair?
32. Which type of needle reduces the risk of bloodborne virus transmission?
33. Which type of needle is used in areas where fluid leakage must be prevented?
34. Which sutures do not require removal by a doctor?
35. Where is the cutting edge located on a reverse-cutting needle?
36. Which sutures must be removed by a doctor?
37. Describe the characteristics of monofilament suture material.
38. Describe the characteristics of braided (multifilament) suture material.
39. When should sutures be removed from the scalp?
40. When should sutures be removed from the face?
41. When should sutures be removed from the soles of the feet?
42. From which parts of the body are sutures typically removed after 10–14 days?
43. Which suture technique consists of a single strand of suture material placed individually?
44. In which suture technique is the knot buried inside the tissue?
45. In which suture technique are stitches placed in a line parallel to the wound edge?
46. Which suture is placed around an area and tightened like a drawstring on a bag?
47. Which knot involves wrapping the suture twice on the first throw?

48. Which knot is made up of two single throws in the same direction?
49. Which knot is made up of two single throws in opposite directions?
50. List the arteries that form the scapular anastomosis.
51. At which level is the brachial artery ligated?
52. With which artery does the interosseous recurrent artery anastomose?
53. Against which structure is the first part of the axillary artery compressed?
54. From which artery does the dorsal scapular artery arise?
55. Against which structure is the radial artery compressed?
56. Against which structure is the ulnar artery compressed?
57. Describe the surface projection line of the axillary artery.
58. Describe the surface projection line of the brachial artery.
59. Describe the surface projection line of the ulnar artery.
60. Describe the surgical approach to the radial artery in the upper third of the forearm.
61. Describe the surgical approach to the ulnar artery in the lower third of the forearm.
62. At what distance from the vessel edge are vascular sutures placed?
63. Which vessels are compressed during the Allen test?
64. What is the purpose of the Allen test?
65. Which structure separates the median cubital vein from the brachial artery?
66. Which vein provides collateral communication for the cephalic vein in the deltopectoral groove in case of axillary vein obstruction?
67. Which veins are commonly chosen for central venous catheterization in the upper limb/shoulder region?
68. Describe the surgical approach to the brachial plexus.
69. Describe the surgical approach to the radial nerve in the upper third of the arm.
70. Describe the surgical approach to the axillary nerve.
71. Describe the surgical approach to the radial nerve in the lower third of the arm.
72. Describe the surgical approach to the median nerve in the lower third of the forearm.
73. Describe the surgical approach to the ulnar nerve in the lower third of the arm.
74. Along which anatomical structure is a brachial plexus nerve block performed?
75. Through which structure is a nerve suture (neurorrhaphy) applied?
76. For how many days must the limb be immobilized after nerve suturing?
77. When is a delayed primary nerve suture performed?
78. When is a secondary nerve suture performed?
79. What is the operation called when a nerve is freed from scar tissue?
80. From which finger does infection typically spread to Parona's space?
81. Where does swelling typically appear in the hand due to deep space infection?
82. What complication results from compression of the finger pulp space?
83. Describe the incision for phlegmon of the anterior compartment of the arm.
84. Describe the incision for phlegmon of the axilla.
85. Describe the incision for phlegmon of the deltoid region.
86. What is the risk/complication of making an incision along the posterior border of the deltoid muscle?
87. Identify the boundaries and danger zones of the thenar space.
88. After how many hours does compartment syndrome of the forearm lead to irreversible muscle damage?
89. Which structure must be incised in forearm compartment syndrome?
90. Which suture material is used for tendon repair?
91. What is the operation called when a tendon is sutured?
92. At which anatomical landmark is the anterior approach for shoulder joint puncture performed?
93. At which anatomical landmark is the lateral approach for shoulder joint puncture performed?
94. Through which muscles is an anterior arthrotomy of the shoulder joint performed?

95. Through which muscles is a posterior arthrotomy of the shoulder joint performed?
96. At which landmark is the posterior approach for elbow joint puncture performed?
97. At which landmark is the posterolateral approach for elbow joint puncture performed?
98. Describe the anterior approach for drainage of a purulent elbow joint.
99. Describe the posterolateral approach for drainage of a purulent elbow joint.
100. Describe the approach for wrist joint puncture.
101. Which nerve must be preserved during amputation of the arm in the upper third?
102. The tendon of which muscle is preserved for myodesis in upper-third arm amputation?
103. At which joint is disarticulation of the thumb performed?
104. Ligation of the axillary artery proximal to which branch will compromise blood supply to the arm?
105. Which structures pierce the clavipectoral fascia?
106. List the branches of the first part of the axillary artery.
107. List the branches of the third part of axillary artery.
108. List the structures located in the subcutaneous tissue of the anterior forearm.

Practical Questions for the Module: "Topographic Anatomy and Operative Surgery of the Upper Limb"

1. Identify the muscles of the scapular region.
2. Identify the nerves of the scapular region.
3. Identify the boundaries of the triangular space.
4. Identify the contents of the quadrangular space.
5. Identify the cutaneous branches of the cervical plexus in the pectoral region.
6. Identify the muscles that form the anterior wall of the axilla.
7. Identify the muscles that form the posterior wall of the axilla.
8. Identify the muscles that form the medial wall of the axilla.
9. Which muscle is innervated by the long thoracic nerve?
10. Which muscle is innervated by the thoracodorsal nerve?
11. Which muscle is innervated by the subscapular nerves?
12. Which muscles are innervated by the axillary nerve?
13. Along which nerve does the lateral thoracic artery run?
14. Which group of axillary lymph nodes is located near the upper margin of the pectoralis minor muscle?
15. Which group of axillary lymph nodes is located posteromedial to the axillary vein?
16. Which group of axillary lymph nodes is located between the lateral thoracic vein and subscapular vein?
17. Identify the veins of the anterior compartment of the arm.
18. Identify the nerves of the anterior compartment of the arm.
19. Identify the muscles of the anterior compartment of the arm.
20. Identify the spiral (radial) groove and the nerve that passes through it.
21. Identify the muscles of the anterior compartment of the forearm (superficial layer).
22. Identify the muscles of the anterior compartment of the forearm (intermediate layer).
23. Identify the muscles of the anterior compartment of the forearm (deep layer).
24. Identify the muscles between which the ulnar artery passes.
25. Identify the muscles between which the radial artery passes.
26. Identify the muscles between which the median nerve passes.
27. Identify the muscle of the lateral fascial compartment of the forearm.
28. Which nerve innervates the posterior compartment of the forearm?
29. Identify the muscles of the posterior compartment of the forearm (superficial layer).
30. Identify the muscles of the posterior compartment of the forearm (deep layer).
31. To which bones is the flexor retinaculum attached?
32. Which muscle tendons pass through the carpal tunnel?

33. Which nerve passes through the carpal tunnel?
34. To which muscle is the palmar aponeurosis continuous/attached?
35. To which bones is the extensor retinaculum attached?
36. Identify the muscles of the thenar eminence.
37. Identify the muscles of the hypothenar eminence.
38. Between which structures is the subaponeurotic space of the palm located?
39. Between which structures is the subtendinous space of the palm located?
40. Identify the contents of the subaponeurotic space.
41. Identify the contents of the subtendinous space.
42. Which muscle tendons form the boundaries of the anatomical snuffbox?
43. Identify the cutaneous nerves of the hand.

Theoretical Questions for the Module: "Topographic Anatomy and Operative Surgery of the Lower Limb"

1. At which anatomical landmark is the femoral artery palpated?
2. Obstruction of which artery results in the loss of the popliteal artery pulse?
3. Against which bone is the femoral artery compressed to achieve temporary hemostasis?
4. At which anatomical landmark is the dorsalis pedis artery palpated?
5. At which anatomical landmark is the posterior tibial artery palpated?
6. At which anatomical level is the femoral artery ligated?
7. Describe the surface projection line of the femoral artery.
8. Describe the surface projection line of the posterior tibial artery.
9. Describe the surface projection line of the anterior tibial artery.
10. Describe the surgical approach to the popliteal artery.
11. Which vessels are at risk of injury during the surgical approach to the popliteal artery?
12. At which anatomical landmark is the great saphenous vein incised at the ankle (for cutdown)?
13. Which nerves must be blocked during a groin venous cutdown?
14. Describe the skin incision for a groin venous cutdown.
15. What complication is associated with venous congestion in the superficial veins?
16. At which anatomical landmark is a femoral nerve block performed?
17. At which anatomical landmark is a sciatic nerve block performed?
18. In which part of the lower limb is paresthesia observed after a femoral nerve block?
19. In which part of the lower limb is paresthesia observed after a sciatic nerve block?
20. In which part of the lower limb is anesthesia observed after a superficial fibular (peroneal) nerve block?
21. Through which anatomical pathways can an infection spread from the pelvic cavity to the medial aspect of the thigh?
22. Through which anatomical pathways can an infection spread from the popliteal fossa to the upper thigh?
23. The pulse of which artery is lost in anterior compartment syndrome of the leg?
24. Which nerve is compromised (or paralyzed) in anterior compartment syndrome of the leg?
25. Which structure must be incised in anterior compartment syndrome of the leg (fasciotomy)?
26. Describe the incision for posterior compartment syndrome of the leg.
27. Describe the incision for anterior compartment syndrome of the leg.
28. Describe the lateral approach for hip joint puncture.
29. Describe the anterior approach for hip joint puncture.
30. At which anatomical landmark is the knee joint punctured?
31. Describe the anterior approach for knee joint arthrotomy.
32. Describe the posterior approach for knee joint arthrotomy.
33. Which nerve is at risk of injury during a posterior approach to knee joint arthrotomy?
34. At which anatomical landmark is the ankle joint punctured?

35. Describe the anteromedial approach for ankle joint arthrotomy.
36. Describe the anterolateral approach for ankle joint arthrotomy.
37. Describe the posteromedial approach for ankle joint arthrotomy.
38. At which anatomical level is a below-knee (transtibial) amputation performed?
39. How is the fibula transected in a below-knee amputation?
40. Which neurovascular bundles are ligated in a below-knee amputation?
41. What type of skin incision is made in an above-knee (transfemoral) amputation?
42. Which neurovascular bundle is ligated by dividing the medial aspect of the sartorius muscle in an above-knee amputation?
43. Through which bones is Sharp's amputation of the foot performed?
44. Identify the "key" ligament in Chopart's disarticulation.
45. Identify the "key" ligament in Lisfranc's disarticulation.
46. Which suture material is used for fascial closure?
47. Which nerve supplies the upper lateral quadrant of the gluteal region (safe injection zone)?
48. Which nerve supplies the lower medial quadrant of the gluteal region?
49. Which structures pass through the saphenous opening (fossa ovalis)?
50. Which cutaneous nerves supply the medial aspect of the thigh?
51. Which nerves form the patellar plexus?
52. Identify the superficial (inferior) opening of the femoral canal.
53. Which ligaments are sutured during the repair of a femoral hernia?
54. List the main structures contained in the posterior compartment of the thigh.
55. Describe the boundaries (openings) and contents of the adductor (Hunter's / cruropopliteal) canal.
56. Describe the formation of the sural nerve.
57. List the structures located in the anterior aspect of the ankle.
58. List the structures located in the medial aspect of the ankle.
59. List the structures located in the lateral aspect of the ankle.
60. Where are the superficial inguinal lymph nodes located?
61. Where are the deep inguinal lymph nodes located?
62. To which structures is the plantar aponeurosis attached?
63. What structures form the boundaries of the medial, intermediate, and lateral plantar fascial spaces?
64. From which regions do the superficial inguinal lymph nodes receive lymphatic drainage?
65. Which arteries form the cruciate anastomosis?
66. Which arteries form the trochanteric anastomosis?
67. List the ligaments of the hip joint.
68. List the ligaments of the ankle joint.
69. What surgical incision is used for hip joint resection?
70. Between which muscles is the joint capsule penetrated during hip joint resection?
71. At which anatomical level is a Garengeot disarticulation of the foot performed?
72. At which level are the digital arteries ligated during a Garengeot disarticulation of the foot?

Practical Questions for the Module: "Topographic Anatomy and Operative Surgery of the Lower Limb"

1. Which nerve must be identified and preserved during a great saphenous vein cutdown at the ankle?
2. Which nerve is closely associated with the small saphenous vein?
3. Along which anatomical structure is the incision made for plantar fasciotomy?
4. Between which bones is the bifurcate ligament located?
5. Between which bones is the medial cuneometatarsal ligament located?
6. Identify the muscles of the second layer of the gluteal region.
7. What structures form the boundaries of the greater sciatic foramen?
8. List the structures that exit the greater sciatic foramen below the piriformis muscle.

9. List the structures that pass through the lesser sciatic foramen.
10. Which muscle does the iliotibial tract sheath, and into which structure does it insert?
11. What structures are contained within the muscular lacuna of the retro-inguinal space?
12. What structures are contained within the vascular lacuna of the retro-inguinal space?
13. Identify the deep (superior) opening of the femoral canal (femoral ring).
14. Identify the lateral border of the femoral canal.
15. Identify the anterior border of the femoral canal.
16. Identify the muscles of the anterior compartment of the thigh.
17. Identify the muscles of the medial compartment of the thigh.
18. Identify the muscles of the posterior compartment of the thigh.
19. Describe the boundaries of the femoral triangle.
20. Describe the boundaries of the adductor (Hunter's) canal.
21. Describe the boundaries of the popliteal fossa.
22. List the muscles of the anterior compartment of the leg.
23. List the muscles of the posterior compartment of the leg.
24. Between which muscles does the anterior tibial artery pass?
25. Which nerve accompanies the anterior tibial artery?
26. Which vein accompanies the sural nerve?
27. Which vein accompanies the saphenous nerve?
28. Between which muscles does the superficial fibular (peroneal) nerve pass?
29. Describe the attachments (origin and insertion) of the superior and inferior extensor retinacula.
30. Describe the attachments of the flexor retinaculum.
31. Identify the muscles within the medial plantar fascial space.
32. Identify the muscles within the intermediate plantar fascial space.
33. List the main structures contained in the sole of the foot.
34. List the main structures contained on the dorsum of the foot.
35. List the muscles located on the dorsum of the foot.
36. Identify the ligaments of the knee joint.
37. Identify the ligaments of the talocalcaneonavicular joint.
38. Identify the ligaments of the calcaneocuboid joint.
39. Which ligaments constitute the bifurcate ligament?
40. Identify the ligaments of the tarsometatarsal joints.

Theoretical Questions for the Module: "Topographic Anatomy and Operative Surgery of the Head and Neck"

1. List the branches of the maxillary nerve.
2. Which nerves form the ansa cervicalis?
3. The posterior auricular artery is a branch of which artery?
4. The internal thoracic artery is a branch of which artery?
5. The deep cervical artery is a branch of which artery?
6. Which vein originates from the pterygoid venous plexus?
7. From which fascial layer is the sheath of the brachial plexus derived?
8. Which structures are enclosed within the carotid sheath?
9. What structures bound the submental triangle bilaterally?
10. Which structures lie superficial to the hyoglossus muscle in the submandibular triangle?
11. List the contents of the suboccipital region.
12. From which fascial layer is the sheath of the subclavian vessels derived?
13. A cephalohematoma results from bleeding from which vessels?
14. Identify the layers of the temporal region.
15. What structures are enclosed by the deep fascia of the face?

16. The infraorbital artery is a branch of which artery?
17. Why does bleeding from the superficial vessels of the scalp tend to be profuse?
18. Bleeding in which layer of the scalp leads to widespread swelling?
19. List the contents of the infratemporal space.
20. List the contents of the interpterygoid space.
21. List the contents of the pterygopalatine fossa.
22. Which layer of the cervical fascia forms the sheath for the submandibular gland?
23. Which layer of the cervical fascia encloses the platysma muscle?
24. The thyroid ima artery typically arises from which vessel?
25. In which cervical triangle is the ansa cervicalis located?
26. Which layer of the scalp is considered the "danger area" for infection spread?
27. Through which foramina can infection spread via emissary veins to the cranial cavity?
28. Which pharmacological agents or methods are typically used to achieve hemostasis in scalp lacerations?
29. List the methods used for the closure of scalp lacerations.
30. Which method of scalp laceration closure is generally preferred?
31. Which closure method is preferred for a scalp wound under 10 cm?
32. Which closure method is preferred for a profusely bleeding scalp wound?
33. What is the term for the surgical removal of a part of the skull with the intention of replacing it?
34. What is the term for the surgical removal of a skull bone flap without replacement?
35. What is the procedure called when the bone flap is replaced during skull surgery?
36. What instrument is used to create burr holes in the skull during a craniotomy?
37. Which instruments or devices are used to fixate a bone flap?
38. Describe the surgical incision for a purulent process in the infratemporal fossa.
39. Describe the surgical incision for a purulent process in the temporal region.
40. Describe the surgical incision for a purulent process in the submandibular region.
41. Describe the surgical incision for a purulent process in the floor of the oral cavity.
42. Describe the surgical incision for a purulent process around the major vessels of the neck.
43. Which suture material is used for subcutaneous closure of facial wounds?
44. Which suture material is used for skin closure on the face?
45. In which region of the face is a vertical mattress suture typically used?
46. In which region of the face is a continuous suture typically used?
47. Which suturing technique is preferred if a facial wound is perpendicular to Langer's lines?
48. Against which bony structure is the common carotid artery compressed to achieve temporary hemostasis?
49. Against which bony structure is the subclavian artery compressed to achieve temporary hemostasis?
50. Which vessels must be avoided during a cricothyroidotomy?
51. Which muscle is divided during a cricothyroidotomy?
52. Through which tracheal rings is a tracheostomy preferably performed?
53. Which nerve must be carefully preserved during a thyroidectomy?
54. To which structure is the recurrent laryngeal nerve intimately related (posing a surgical risk)?
55. Damage to which nerve results in weakness of phonation?
56. Damage to which nerve results in complete loss of phonation in a patient?
57. Damage to or surgical removal of which structure can lead to lethal tetany?
58. How can scalp bleeding be effectively arrested?
59. Why can a scalp infection spread to the eyelids and the root of the nose?
60. What is the function of arachnoid villi (granulations)?
61. With which part of the skull is the mastoid antrum connected?
62. The medial wall of the mastoid antrum contains prominences for which structures?
63. The posterior wall of the mastoid antrum is separated by a thin bony plate from which structure?
64. Through which foramen does the mandibular nerve exit the skull?
65. Describe the course of the greater petrosal nerve.
66. Which structures are directly related to the cavernous sinus?

67. List the structures that pass through the foramen magnum.
68. List the structures that pass through the jugular foramen.
69. List the structures that pass through the internal acoustic meatus.
70. Which dural venous sinuses drain into the sigmoid sinus?
71. Describe the topography (course) of the parotid duct.
72. List the structures contained within the parotid region.
73. Which nerve innervates the anterior belly of the digastric muscle?
74. Between which structures is the parapharyngeal space located?
75. Identify the structures that form the stylodiaphragm.
76. Which structures are located posterior to the stylodiaphragm?
77. Which nerves contribute to the formation of the pharyngeal plexus?
78. Describe the topography of the deep petrosal nerve.
79. Which nerve innervates the dilator pupillae muscle?
80. Which nerves arise from the superior cervical ganglion?
81. The carotid sinus is innervated by which nerve?
82. Where is the carotid body located, and what is its function?
83. Describe the surface projections of the cutaneous branches of the cervical plexus.
84. Describe the topography of the spinal accessory nerve.
85. Into which vein does the external jugular vein terminate?
86. Describe the topography of the occipital artery in the suboccipital region.
87. Describe the topography of the vertebral artery in the suboccipital region.
88. What structures are contained within the suprasternal space (of Burns)?
89. The parathyroid glands are closely related to the branches of which artery?
90. Which muscles adduct the vocal cords?
91. Which muscles abduct the vocal cords?
92. Which muscles relax the vocal cords?
93. Which muscle opens the inlet of the larynx?
94. At what anatomical level does the right recurrent laryngeal nerve arise from the vagus nerve?
95. At what anatomical level does the left recurrent laryngeal nerve arise from the vagus nerve?
96. Which structures are innervated by the recurrent laryngeal nerve?
97. Which structures are innervated by the external laryngeal nerve?
98. Which nerve passes in the tracheoesophageal groove?
99. The membranous wall of the trachea is posteriorly related to which structure?
100. Where are the annular ligaments of the trachea located?
101. List the arteries that supply the trachea.
102. To which structures is the pharynx attached on each side?
103. The external circular layer of the pharyngeal muscles consists of which muscles?
104. The internal longitudinal layer of the pharyngeal muscles consists of which muscles?
105. List the fascial layers associated with the pharynx.
106. Which tonsils constitute Waldeyer's lymphatic ring?
107. The cervical part of the esophagus is posteriorly related to which structures?
108. Which vessel passes through the transverse foramina of vertebrae C1–C6?
109. Which vessels pass posterior to the internal jugular vein and the sternocleidomastoid muscle?
110. Which vessels pass deep to the levator scapulae muscle?
111. Identify the terminal branches of the transverse cervical artery.
112. From which spinal nerves do the phrenic nerves originate, and what do they innervate?
113. How is the stellate ganglion formed, and where is it located?
114. On which structure does the middle cervical ganglion lie?
115. How should the inferior thyroid artery be ligated during a thyroidectomy to avoid nerve injury?
116. Where can a parathyroid gland be autotransplanted if damaged during surgery or radiation therapy?
117. What are the clinical signs of a positive Claude Bernard-Horner syndrome following a vagosympathetic block?
118. Describe the surgical approach to the cervical part of the esophagus.
119. What must the surgeon do before suturing the muscular and adventitial layers of the esophagus?
120. How is the patient fed following esophageal surgery?

Practical Questions for the Module: "Topographic Anatomy and Operative Surgery of the Head and Neck"

1. Identify the communications (openings) of the pterygopalatine fossa.
2. The pterygoid process of which bone forms the posterior boundary of the pterygopalatine fossa?
3. List the infrahyoid muscles.
4. What are the attachments of the temporalis muscle?
5. Through which foramen does the facial nerve exit the skull?
6. Identify the cutaneous branches of the cervical plexus.
7. The ascending pharyngeal artery is a branch of which artery?
8. The masseteric artery is a branch of which artery?
9. Which structure passes through the foramen spinosum?
10. List the branches of the facial artery.
11. Identify the tributaries of the internal jugular vein.
12. Identify the branches of the subclavian artery.
13. Identify the branches of the external carotid artery.
14. Which nerve provides motor innervation to the platysma?
15. Which nerves provide sensory innervation to the scalp?
16. Which arteries provide the blood supply to the scalp?
17. The transverse facial artery is a branch of which artery?
18. List the contents of the inferior orbital fissure.
19. List the contents of the superior orbital fissure.
20. Which smaller triangles are located within the anterior triangle of the neck?
21. How many layers constitute the deep cervical fascia, and what are they?
22. Which branches of the external carotid artery enter the submandibular triangle?
23. Which nerve provides sensory innervation to the skin of the face? Identify its branches.
24. Which nerve innervates the muscles of mastication?
25. Which nerve innervates the facial muscles? Identify its branches.
26. Which structures pass through the parotid gland?
27. List the contents of the omoclavicular (subclavian) triangle.
28. List the contents of the occipital triangle.
29. The venous angle is formed by the confluence of which veins?
30. Into which venous structure does the thoracic duct drain?
31. Describe the surface projection of the supraorbital vessels.
32. Describe the surface projection of the superficial temporal artery.
33. Describe the surface projection of the supratrochlear artery.
34. Describe the surface projection of the occipital artery on the scalp.
35. Describe the surface projection line of the facial artery.
36. With which structure of the cranial cavity does the facial vein communicate?
37. Describe the surface projection of the zygomatic branch of the facial nerve.
38. Describe the surface projection of the buccal branch of the facial nerve.
39. Damage to which nerve causes hoarseness of voice in a patient?
40. The epicranial aponeurosis is part of which muscle complex?
41. Identify the attachments of the falx cerebri.
42. Identify the dural venous sinuses located within the falx cerebri.
43. Identify the attachments of the tentorium cerebelli.
44. The frontal branch of the middle meningeal artery corresponds to which surface line of the skull?
45. Which structure connects the cerebral hemispheres across the midline?
46. Identify the boundaries and contents of the lateral sulcus (Sylvian fissure) of the brain.
47. Identify the parts of the inferior frontal gyrus.
48. Identify the gyri of the parietal lobe.
49. What are the boundaries of Shipov's triangle (mastoid triangle)?
50. Which nerves pass through the cribriform plate of the ethmoid bone?
51. Which structures pass through the optic canal?
52. Which nerve descends along the lateral surface of the sphenomandibular ligament?
53. Identify the cartilages of the larynx.
54. Identify the membranes and ligaments of the larynx.
55. The laryngeal ventricle is located between which structures?

Theoretical Questions for the Module: "Topographic Anatomy and Operative Surgery of the Thorax"

1. What structures bound the mediastinum?
2. List the contents of the superior mediastinum.
3. List the contents of the posterior mediastinum.
4. What structures are contained within the intercostal spaces?
5. Which lymphatic trunks drain into the right venous angle?
6. Which lymphatic trunks converge to form the thoracic duct?
7. Which layer of the heart wall is serous?
8. Which layer of the heart forms the cardiac valves?
9. Describe the area of distribution of the left coronary artery.
10. List the tributaries of the brachiocephalic vein.
11. At which vertebral level does the superior vena cava open into the right atrium?
12. At which vertebral level does the hemiazygos vein cross from left to right?
13. Which nerve passes anterior to the root (hilum) of the lung?
14. Which nerve passes posterior to the root (hilum) of the lung?
15. Which nerve plexus passes anterior to the esophagus?
16. At which vertebral level does the thoracic duct cross from the right to the left side?
17. Describe the surface projection (marking) of the aortic valve.
18. Describe the surface projection (marking) of the pulmonary valve.
19. Describe the surface projection (marking) of the mitral valve.
20. Describe the surface projection (marking) of the tricuspid valve.
21. The greater splanchnic nerve is a component of which nervous system structure?
22. What is the approximate length of the thoracic duct?
23. The thyroid ima artery typically arises from which vessel?
24. What is the most superior structure at the hilum of the left lung?
25. What is the most inferior structure at the hilum of the left lung?
26. List the structures contained within the hilum of the right lung.
27. List the bronchopulmonary segments of the upper lobe of the right lung.
28. List the bronchopulmonary segments of the lower lobe of the left lung.
29. What are the anatomical characteristics of a bronchopulmonary segment?
30. In which part of the bronchial tree are inhaled foreign bodies most likely to become trapped?
31. By which membrane are the lungs enclosed?
32. List the structures that pass posterior to the diaphragm (through the aortic hiatus).
33. Up to which order of bronchi do the bronchial arteries supply blood?
34. At which vertebral level does the trachea bifurcate?
35. What branches arise from the thoracic spinal nerves?
36. Up to which order of bronchi does the wall contain cartilage?
37. What is the arterial blood supply to the right lung?
38. The pericardiophrenic artery is a branch of which artery?
39. The phrenic nerve arises from which nerve plexus?
40. Which arteries supply blood to the trachea?
41. Which nerves provide sensory innervation to the parietal pleura?
42. What is the largest and deepest pleural recess?
43. Which surgical incision is preferred for penetrating chest wounds with uncontrolled hemorrhage?
44. What structures must be carefully avoided during an anterolateral thoracotomy?
45. Which surgical approach is preferred for operations on the right atrium?
46. What structure must be preserved during a rib resection?
47. Through which layer is the incision typically made after a rib resection?
48. Which intercostal nerves provide sensory innervation to the peripheral part of the parietal peritoneum?
49. Along which anatomical line does the lateral cutaneous branch of the intercostal nerve emerge?
50. In which intercostal space and along which line is a needle thoracostomy performed?
51. In which intercostal space and along which line is a tube thoracostomy performed?
52. In which intercostal space and along which line is a thoracentesis performed?
53. Which surgical procedure is performed for pleural effusion?
54. Which vessels and nerves are compressed in thoracic outlet syndrome?

55. Between which bony structures is the subclavian artery compressed in thoracic outlet syndrome?
56. Which surgical procedures are performed for thoracic outlet syndrome?
57. Which arteries supply blood to the breast?
58. What type of incision is made for the drainage of a breast abscess?
59. Into which lymph nodes does lymph from the breast primarily drain?
60. Name the surgical procedures performed for breast carcinoma.
61. Which muscles are removed during a radical mastectomy?
62. What is the term for the condition where air from the lung root enters the mediastinum and tracks up to the neck?
63. What is the first structure ligated during a segmental resection of the lung?
64. What is the third structure ligated during a segmental resection of the lung?
65. To which lymph nodes does a bronchogenic carcinoma typically metastasize?
66. At which anatomical landmark is the needle introduced for pericardiocentesis?
67. Describe the anatomical relations of the thoracic duct in the posterior mediastinum.
68. Which suture material is used for repairing heart wounds?
69. What must be left unsutured temporarily when repairing a cardiac wound?
70. Which medication reverses the effects of heparin?
71. At what temperature is the body maintained during cardiopulmonary bypass?
72. Into which vessel is the cannula for oxygenated blood inserted during cardiopulmonary bypass?
73. What is the surgical procedure called in which cardiac valves are replaced?
74. Which vessels are typically used as grafts in coronary artery bypass grafting (CABG)?
75. A surgical anastomosis between which arteries is used to revascularize the myocardium?
76. Into which part of the thorax can an infection spread posterior to the prevertebral fascia of the neck?
77. Compression of which mediastinal structure leads to venous engorgement in the upper half of the body?
78. Compression of which mediastinal structure leads to diaphragmatic paralysis?
79. Which procedure slows the body's metabolic rate and decreases its oxygen demand?
80. What condition results from a laceration of the thoracic duct?
81. On which side is central venous access most commonly preferred?
82. Compression of which mediastinal structure leads to dyspnea and cough?
83. Which suturing technique is preferred for bronchial closure?
84. Near which border of the rib is a thoracic incision typically made?
85. Which thoracic wall incision is made prior to a left upper lobectomy?
86. At what age does the thymus reach its maximum development, and what are its approximate weight and dimensions?
87. Describe the anatomical relations of the right vagus nerve.
88. Describe the anatomical relations of the left vagus nerve.
89. Describe the anatomical relations of the right phrenic nerve.
90. Describe the anatomical relations of the left phrenic nerve.
91. List the tributaries of the azygos vein.
92. List the tributaries of the hemiazygos vein.
93. List the tributaries of the accessory hemiazygos vein.
94. Which structure is located between the esophagus and the azygos vein?
95. Describe the origin of the greater splanchnic nerve.
96. Describe the origin of the lesser splanchnic nerve.
97. Into which lymph nodes does lymph from the intercostal spaces drain?
98. List four groups of visceral lymph nodes that drain the lungs.
99. Which lymph nodes receive lymphatic drainage from the thymus, pericardium, and heart?
100. Identify the regional lymph nodes of the heart.
101. Which efferent lymphatic vessels form the bronchomediastinal trunk?
102. Behind which structure does the needle tip enter the right venous angle during central line placement?
103. Which structure may be punctured if the needle is inserted too deeply during a subclavian vein puncture?
104. How many intercostal spaces must be anesthetized to provide complete local anesthesia for a thoracic procedure?

Practical Questions for the Module: "Topographic Anatomy and Operative Surgery of the Thorax"

1. Which major vessels enter the right atrium?
2. What structure is located on the interatrial septum?
3. Which vessels are located in the anterior interventricular groove?
4. Identify the anatomical location of the sinoatrial node.
5. Identify the anatomical location of the atrioventricular node.
6. Which vessel is formed by the confluence of the brachiocephalic veins?
7. List the tributaries of the superior vena cava.
8. The auricles (auriculae) are extensions of which cardiac chambers?
9. Where are the semilunar valves located?
10. What are the openings of the left ventricle?
11. In which chamber is the opening of the coronary sinus located?
12. In which groove is the middle cardiac vein located?
13. The oblique sinus of the pericardium is located between which structures?
14. The hemiazygos vein is a tributary of which vein?
15. The internal thoracic vein is a tributary of which vein?
16. The transverse sinus of the pericardium is located between which structures?
17. The oblique sinus of the pericardium is located between which structures?
18. List the structures related to the arch of the aorta.
19. The brachiocephalic trunk arises from which vessel?
20. At which level does the esophagus cross anterior to the descending aorta?
21. Which cardiac chamber primarily forms the inferior border of the heart?
22. Which cardiac chamber primarily forms the left border of the heart?
23. The venous angle is formed by the confluence of which veins?
24. Into which venous structure does the thoracic duct drain?
25. What are the anatomical parts of the diaphragm?
26. The cardiac notch is a deep indentation on which lung?
27. Which structure passes through the opening in the central tendon of the diaphragm?
28. Through which part of the diaphragm does the esophagus pass?
29. What structures pass through the aortic hiatus of the diaphragm?
30. Which structure arches over the hilum of the right lung?
31. From which structures does the right crus of the diaphragm arise?
32. Identify the origin of the coronary arteries.
33. Near which part of the ribs are the ganglia of the sympathetic trunk located?
34. List the anatomical layers pierced during an anterior needle thoracostomy.
35. List the anatomical layers pierced during a lateral needle thoracostomy.
36. Which structures must be preserved during a modified radical mastectomy?
37. Describe the anatomical relations of the thoracic part of the trachea.
38. The membranous part of the trachea is posteriorly related to which structure?
39. List the structures related to the cervical pleura (pleural cupula).
40. From which pleural recess is fluid typically aspirated during thoracentesis?

Theoretical Questions for the Module: "Topographic Anatomy and Operative Surgery of the Abdomen"

1. Which fascial layer prevents the extravasation of urine in the event of a urethral rupture?
2. Which nerves provide sensory and motor innervation to the anterior abdominal wall?
3. At which anatomical landmark is a nerve block for the T7–T11 thoracic nerves performed?
4. At which anatomical landmark is a nerve block for the iliohypogastric and ilioinguinal nerves performed?
5. What is the term for a surgical incision that opens the abdominal cavity?
6. Where is a paramedian incision of the abdomen typically made?
7. Where is a pararectus incision of the abdomen typically made?
8. Which abdominal incision typically involves transecting a segmental nerve?
9. Which surgical incision is preferred for a splenectomy?
10. At which anatomical site is abdominal paracentesis performed?
11. Which portion of the umbilical ring is anatomically weak?
12. Which portion of the umbilical ring is anatomically strong?

13. Which abdominal incision is considered muscle-sparing (does not cut through muscle fibers)?
14. Identify the anatomical remnant of the umbilical artery.
15. Identify the anatomical remnant of the left umbilical vein.
16. Identify the structures forming the floor of the inguinal canal.
17. Which type of hernia passes lateral to the inferior epigastric artery?
18. Which type of hernia passes medial to the inferior epigastric artery?
19. Which type of hernia is most commonly found in elderly men?
20. Which hernia occurs near the lateral margins of the rectus abdominis muscle?
21. List the contents of the inguinal canal.
22. Which hernia passes through a patent (unobliterated) processus vaginalis?
23. In which region of the abdomen does an epigastric hernia occur?
24. Which hernia initially presents as a small protrusion of extraperitoneal fat?
25. Which nerves travel within the spermatic cord?
26. Which muscle fibers surround the spermatic cord?
27. Describe the standard surgical approach (incision) for inguinal hernia repair.
28. Which structures of the inguinal canal are sutured together first in the Bassini hernia repair method?
29. Which structures are sutured first in the Martynov hernia repair method?
30. Which type of hernia is repaired using the Sapezhko method?
31. Which ligaments constitute the lesser omentum?
32. What is the anatomical and surgical significance of the epiploic foramen (of Winslow)?
33. Identify the posterior anatomical relations of the epiploic foramen.
34. Describe the surgical approach to access the lesser sac (omental bursa).
35. In which peritoneal spaces does infection (abscess) most commonly localize?
36. Which surgical incision is used to drain a subphrenic abscess?
37. Why does a patient with a subphrenic abscess complain of referred pain in the shoulder?
38. Describe the typical posture of a patient with peritonitis and explain the physiological reason for this position.
39. On which postoperative day does the serosal layer of the intestine typically achieve initial fusion/healing?
40. In which direction are sutures typically placed when closing the stomach?
41. In which direction are sutures typically placed when closing the large intestine?
42. At what distance from the wound edge are intestinal sutures typically placed?
43. Which type of intestinal suture carries a higher risk of infection or leakage?
44. Which suturing technique is preferred for intestinal anastomosis?
45. Which suture materials are appropriate for intestinal anastomosis?
46. List the contents of the lesser omentum.
47. List the structures contained within the hepatogastric ligament.
48. Which surgical procedures are performed for a gastric ulcer?
49. Identify the anatomical location of the acid-producing (parietal) mucosa of the stomach.
50. Into which anatomical space may a gastric ulcer on the posterior wall of the stomach perforate?
51. Into which part of the peritoneal cavity can pus spread if an anterior duodenal ulcer perforates?
52. Which vessels are ligated during a selective vagotomy?
53. Between which organs is the anastomosis created in a Billroth I procedure?
54. Between which organs is the anastomosis created in a Billroth II procedure?
55. Which surgical procedures are performed for gastric cancer?
56. Which ligaments and associated lymph nodes are resected during a total gastrectomy?
57. Which organs or structures are resected during a total gastrectomy?
58. Which surgical procedure is performed for esophageal strictures caused by chemical burns?
59. Which pathological condition can lead to severe hemorrhage from the gastroduodenal artery?
60. Which type of duodenojejunostomy (e.g., Roux-en-Y) is preferred for biliary drainage into the to the stomach? (Cardia / esophagogastric junction).
61. In which part of the gastrointestinal tract are the appendices epiploicae found?
62. Describe the dual blood supply of the liver.
63. Which portion of the peritoneum drapes over the transverse colon and the coils of the small intestine?
64. Which peritoneal structure attaches the liver to the anterior abdominal wall and diaphragm?

65. Which anatomical structures are crossed by the root of the mesentery of the small intestine?
66. Where are the vascular arcades located within the mesentery?
67. The cystic artery is typically a branch of which artery?
68. List the main tributaries of the portal vein.
69. Which artery supplies the descending colon?
70. The superior epigastric artery is a terminal branch of which artery?
71. The inferior epigastric artery arises from which artery?
72. Which aponeuroses form the anterior rectus sheath?
73. What are the anatomical boundaries of Hesselbach's triangle?
74. Identify the deep arteries supplying the anterior abdominal wall.
75. The greater omentum connects which structures?
76. Which structures form the anterior wall of the lesser sac (omental bursa)?
77. Which structures form the inferior wall (recess) of the lesser sac?
78. What are the anatomical boundaries of the hepatorenal pouch (Morison's pouch)?
79. At which rib/intercostal space is the upper border of the liver located in the right midclavicular line?
80. At which level is the lower border of the liver located in the midsternal line?
81. List the posterior anatomical relations of the liver.
82. Where is the fundus of the gallbladder projected on the anterior abdominal wall?
83. Describe the anatomical parts of the biliary tree (bile ducts).
84. Describe the peritoneal relations of the stomach.
85. List the posterior anatomical relations of the pancreas.
86. What are the visceral impressions on the medial surface of the spleen?
87. List the three main branches of the celiac trunk.
88. List the branches of the gastroduodenal artery.
89. List the main branches of the splenic artery.
90. Identify the regional lymph node groups of the stomach.
91. Describe the surface projection of the spleen on the abdominal wall.
92. To which anatomical structure is the transverse colon typically fixed during a transverse colostomy?

Practical Questions for the Module: "Topographic Anatomy and Operative Surgery of the Abdomen"

1. Identify the structures forming the anterior wall of the inguinal canal.
2. Which vessels can compress the third part of the duodenum (causing Superior Mesenteric Artery syndrome)?
3. Which vascular structures serve as anatomical guides for hepatic segmentation?
4. Which organ is removed during a cholecystectomy?
5. Identify the anatomical boundaries of Calot's triangle.
6. Which vessels are prone to thrombosis in severe pancreatitis?
7. Which surgical approach is used to drain pancreatic pseudocysts?
8. Which anatomical parts of the pancreas are resected in a pancreaticoduodenectomy (Whipple procedure)?
9. Repair of a rupture in which abdominal organ is particularly difficult due to profuse bleeding?
10. Which adjacent organ must be carefully preserved during a splenectomy?
11. The appendicular artery is a branch of which artery?
12. List the muscles of the anterior abdominal wall.
13. What is a characteristic anatomical feature of the large intestine?
14. Into which part of the duodenum does the common bile duct open?
15. The left gastro-omental (gastroepiploic) artery is a branch of which artery?
16. The inferior pancreaticoduodenal artery is a branch of which artery?
17. The right colic artery is a branch of which artery?
18. The sigmoid arteries are branches of which artery?
19. The left paracolic gutter is partially closed by which structure?
20. The right paracolic gutter communicates directly with which peritoneal space?
21. Describe the line of attachment of the root of the mesentery.

22. The Cantlie line passes through which anatomical landmarks?
23. Identify the anatomical segments of the left lobe of the liver.
24. Describe the surface projection of the right colic (hepatic) flexure.
25. List the branches of the inferior mesenteric artery.
26. The marginal artery of Drummond is formed by the anastomosis of which arteries?
27. What is the surgical method for identifying the first loop of the jejunum (ligament of Treitz)?
28. List the structures contained within the gastrocolic ligament.
29. Describe the standard skin incision made for an appendectomy.
30. Where does the accessory pancreatic duct (of Santorini) open, and at what distance from the pylorus?
31. What structure does the round ligament of the liver (ligamentum teres) contain?
32. What fetal structure is contained within the venous ligament of the liver (ligamentum venosum)?

Theoretical Questions for the Module: "Topographic Anatomy and Operative Surgery of the Lumbar Region, Retroperitoneal Space, and Pelvis"

1. What is the preferred intercostal approach to the renal hilum?
2. What is the preferred intercostal approach for a kidney with caval tumor thrombosis?
3. What are the potential complications of a thoracoabdominal approach?
4. For which organ is the Bergmann-Israel approach primarily used?
5. Which surgical approach is used for the lower (iliac) portion of the ureter?
6. Into which structure does renal cell carcinoma most commonly invade or spread?
7. What anatomical structure prevents the spread of infection from one kidney to the other?
8. Into which anatomical spaces does pus from the kidney typically spread?
9. In which anatomical region does a psoas abscess typically present?
10. From which abdominal or retroperitoneal structures can a psoas abscess originate?
11. What is the primary function of a nephroscope?
12. Which technique is used to fragment ureteral stones?
13. Which surgical procedures are performed for ureteral obstruction?
14. Which surgical procedure is performed for vasospastic disorders of the lower limb arteries?
15. Which spinal cord segments provide sympathetic innervation to the vessels of the lower limb?
16. Which sympathetic ganglia are typically removed during a lumbar sympathectomy?
17. Which sympathetic ganglion must be preserved during a lumbar sympathectomy?
18. Damage to which sympathetic ganglion results in the loss of ejaculatory function?
19. What is the medical term for the downward displacement of the kidney?
20. What surgical procedure is performed to correct nephroptosis?
21. At which vertebral level does the spinal cord typically terminate in adults?
22. At which vertebral level does the subarachnoid space typically terminate?
23. Which anatomical landmark line is used to guide a lumbar puncture?
24. Between which vertebrae is a lumbar puncture typically performed?
25. What is the typical depth of needle insertion into the subarachnoid space in children?
26. What is the typical depth of needle insertion into the subarachnoid space in adults?
27. If a few drops of blood escape during a lumbar puncture, in which space is the needle likely located?
28. Into which anatomical space is a lumbar puncture performed?
29. In which position should the patient be placed for spinal (subarachnoid) anesthesia?
30. Where is the sacral hiatus located for caudal anesthesia?
31. Through which anatomical opening in the sacral/gluteal region is caudal anesthesia administered?
32. Which surgical procedure is performed if urethral catheterization fails?
33. Which wall of the urinary bladder is typically damaged in an intraperitoneal rupture?
34. Which wall of the urinary bladder is typically damaged in an extraperitoneal rupture?
35. Which type of suture is used to repair a ruptured urinary bladder?
36. In which position of the penis is the S-shaped curve of the urethra straightened into a J-shape during catheterization?
37. Which position of the penis facilitates passing the catheter through the external urethral sphincter?
38. Into which anatomical space does urine extravasate following a rupture of the bulbar urethra?

39. Into which anatomical space does urine extravasate following a rupture of the membranous urethra?
40. Which preliminary procedure (e.g., suprapubic cystostomy) is performed before suturing a ruptured urethra?
41. Within how many minutes must a fetus be delivered following maternal cardiac arrest (perimortem cesarean section)?
42. What is the name of the procedure performed to deliver a fetus after maternal death?
43. Which adjacent structures must be carefully avoided during a Cesarean section?
44. Which adjacent organ requires special care to avoid injury during a hysterectomy?
45. At which anatomical landmark does the uterine artery cross the ureter ("water under the bridge")?
46. In which pathological condition does blood typically accumulate in the rectouterine pouch (Pouch of Douglas)?
47. What is the name of the procedure involving needle puncture of the posterior vaginal fornix?
48. Which surgical procedure is performed to assist spontaneous delivery, and in which direction is the incision made?
49. What are the potential complications of an episiotomy or spontaneous vaginal delivery?
50. Which anatomical landmark is used for a transvaginal pudendal nerve block?
51. Which anatomical landmark is used for a perineal pudendal nerve block?
52. On which side does a varicocele most commonly occur?
53. Through which venous pathway is blood drained following a varicocelectomy?
54. Into which lymph nodes does testicular cancer typically metastasize first?
55. What is the medical term for the narrowing of the male urethra?
56. Which anatomical structures must the surgeon carefully preserve during prostate surgery?
57. On which organ is a transurethral resection (TUR) performed?
58. Which organs and structures are removed during a radical prostatectomy?
59. At what gestational age does an ectopic tubal pregnancy typically rupture?
60. What are the potential complications of an anal fissure?
61. What is the name of the abscess located between the rectum and the upper surface of the levator ani muscle?
62. Which surgical incision is used to treat an anal fissure while preserving the internal anal sphincter?
63. Into which lymph nodes does lymph from below the dentate line of the anal canal drain?
64. Which surgical procedure is performed following rectal excision for carcinoma?
65. Into which lymph nodes does lymph from the upper part of the rectum drain?
66. What is the name of the middle muscular layer of the uterine wall?
67. What is the primary blood supply to the vagina?
68. Which nerve in the pelvic cavity contains parasympathetic nerve fibers?
69. The hypogastric sheath is a condensation of which fascial layer?
70. List the contents of the superficial perineal pouch.
71. List the contents of the deep perineal pouch.
72. What is the nerve supply to the uterus?
73. What structure does the ureteric fold of the peritoneum contain?
74. What is the superior continuation of Colles' fascia?
75. Between which fascial layers is the superficial perineal pouch located?
76. Between which fascial layers is the deep perineal pouch located?
77. What structures provide the primary fibromuscular support of the uterus?
78. What is the innervation of the vagina?
79. To which structures is the middle layer of the thoracolumbar fascia attached?
80. Which muscle forms the lateral arcuate ligament?
81. To which structures is the medial arcuate ligament attached?
82. List the lateral branches of the abdominal aorta.
83. Which branches of the abdominal aorta develop from the vitelline arteries?
84. Which structures are related to the anterior surface of the inferior vena cava?
85. At which vertebral level does the inferior vena cava pierce the central tendon of the diaphragm?
86. Describe the topography and anatomical relations of the renal veins.
87. Describe the lymphatic drainage and lymph nodes of the posterior abdominal wall.
88. Which muscles are innervated by the muscular branches of the lumbar plexus?
89. From which spinal nerve roots does the obturator nerve arise?

90. Identify the ganglia that constitute the celiac plexus.
91. Which major nerve contributes fibers to the ganglia of the celiac plexus?
92. To which vertebrae are the kidneys anatomically related?
93. List the structures that pass through the renal hilum.
94. List the anatomical relations of the right kidney.
95. List the anatomical relations of the left kidney.
96. List the fascial coverings (layers) of the kidney.
97. At their origin, the right and left ureters are covered by which peritoneal layer?
98. In the pelvic cavity, the ureter is situated anterior and medial to which structure?
99. In males, what are the anatomical relations of the pelvic part of the ureter?
100. Where are the physiological constrictions (narrowings) of the ureter located?
101. Describe the relationship between spinal cord segments and their corresponding vertebral levels.
102. Which spinal nerves constitute the cauda equina?
103. List the meningeal layers of the spinal cord.
104. Which space surrounding the spinal cord contains cerebrospinal fluid?
105. Describe the topography and attachments of the denticulate ligament.
106. Describe the arterial blood supply to the rectum.
107. What are the anatomical and clinical features of internal hemorrhoids?
108. What are the anatomical and clinical features of external hemorrhoids?
109. In which physiological state does the urinary bladder come into direct contact with the anterior abdominal wall?
110. What structures are related to the base (posterior surface) of the urinary bladder?
111. Which portion of the male urethra is the widest and most dilatable?
112. Into which part of the urethra do the ejaculatory ducts open?
113. Which part of the male urethra lies within the urogenital diaphragm (deep perineal pouch)?
114. Identify the anatomical flexures of the male urethra.
115. Describe the anatomy and drainage of the prostatic venous plexus.
116. How is the ejaculatory duct formed?
117. From which layer of the abdominal wall does the cremaster muscle derive?
118. Between which layers is the serous cavity (tunica vaginalis) of the testis situated?
119. List the anatomical parts of the epididymis.
120. In which structure does the deep artery of the penis run?
121. Describe the attachments of the fundiform ligament of the penis.
122. List the contents of the spermatic cord.
123. List the fascial coverings of the spermatic cord.

Practical Questions for the Module: "Topographic Anatomy and Operative Surgery of the Lumbar Region, Retroperitoneal Space, and Pelvis"

1. Identify the location of the pudendal canal (Alcock's canal) relative to the ischial tuberosity.
2. Which veins are typically dilated in a varicocele?
3. Into which vein does the left testicular vein drain, and at what angle?
4. Which ligament is used to peritonize the uterine angle following a salpingectomy?
5. Which major muscle passes through the greater sciatic foramen?
6. Which muscles exit through the lesser sciatic foramen?
7. What structures are related to the posterior wall of the female urinary bladder?
8. What is the normal anatomical position of the uterus?
9. List the structures contained within the broad ligament of the uterus.
10. What structures are related to the posterior wall of the female urethra?
11. Identify the anatomical parts of the uterine (fallopian) tube.
12. Which uterine ligament passes through the inguinal canal?
13. Through which foramen does the superior gluteal nerve pass?
14. List the main branches of the pudendal nerve.
15. Which muscles will be paralyzed if the pudendal nerve is injured?
16. The superior gluteal artery is a branch of which artery?
17. The superior vesical artery is a branch of which artery?
18. The inferior rectal artery is a branch of which artery?
19. Name the muscles that form the lateral and posterior walls of the pelvic cavity.

20. List the constituent parts of the levator ani muscle.
21. What is the nerve supply to the skin of the perineum?
22. List the structures attached to the perineal body.
23. Which fascial layer forms the pudendal canal?
24. Which nerve passes through the lesser sciatic foramen?
25. Describe the anatomical boundaries of the ischioanal fossa.
26. Which specific fascial layer forms the pudendal canal?
27. The anterior scrotal nerves are branches of which nerve?
28. List the contents of the ischioanal fossa.
29. What peritoneal folds provide support to the uterus?
30. List the anatomical structures of the vulva.
31. Identify the muscles of the urogenital triangle.
32. Identify the walls of the ischioanal fossa.
33. Which spinal nerve roots form the sacral plexus?
34. The artery of the round ligament is a branch of which artery?
35. List the major branches of the lumbar plexus.
36. What structures bound the ovarian fossa?
37. List the paired muscles of the posterior abdominal wall.
38. Where does the iliopsoas muscle insert?
39. Which nerves emerge from the anterior surface of the psoas major muscle?
40. Which nerve passes downward in the interval between the psoas major and iliacus muscles?
41. Identify the synovial joints between the vertebrae.
42. Identify the anatomical parts of an intervertebral disc.
43. List the ligaments that connect adjacent vertebrae.
44. Which ligament connects the laminae of adjacent vertebrae?
45. Identify the structures that form the lower end (conus medullaris) of the spinal cord.
46. Identify the anatomical flexures of the rectum.

Appendix 2

Exam ticket variants

Module: Surgical Instruments, Sutures, Knots, Topographic Anatomy, and Operative Surgery of the Upper Limb

Exam Ticket 1

Theoretical Questions:

1. What is the surgical term for the partial removal of an organ?
2. Identify the primary cutting and dissecting surgical instruments.
3. Which instrument is used to pass a suture through tissue?
4. Which surgical knot is formed by two single throws tied in opposite directions?
5. At which anatomical landmark is the radial artery compressed to achieve temporary hemostasis?
6. Describe the surgical approach to the ulnar artery in the distal third of the forearm.
7. Describe the surgical incision used for draining a phlegmon of the deltoid region.

Practical Questions:

1. Identify the anatomical boundaries of the triangular space (of the shoulder).
2. Identify the muscles that form the medial wall of the axilla.
3. List the muscles of the anterior compartment of the forearm, specifically the 3rd and 4th (deep) layers.
4. Which nerve passes through the carpal tunnel?
5. Identify the contents of the subtendinous space.

Exam Ticket 2

Theoretical Questions:

1. What is the surgical term for puncturing or piercing a tissue surface?
2. What is the primary purpose of using diathermy (electrocautery) in surgery?
3. Describe the characteristics (features) of monofilament suture material.
4. With which artery does the recurrent interosseous artery anastomose?
5. Describe the surface projection line of the brachial artery.
6. Describe the surgical approach to the median nerve in the distal third of the forearm.
7. What is the potential complication of making an incision along the posterior border of the deltoid muscle?

Practical Questions:

1. Identify the cutaneous branches of the cervical plexus that supply the pectoral region.
2. Identify the superficial and deep veins of the anterior compartment of the arm.
3. List the muscles of the anterior compartment of the forearm that belong to the second (intermediate) layer.
4. To which bones is the flexor retinaculum attached?
5. Identify the contents of the subaponeurotic cellular space of the upper limb.

Exam Ticket 3

Theoretical Questions:

1. What is the surgical term for the fixation of an organ to an adjacent structure or organ?
2. Which surgical instrument is specifically designed to grasp and hold a suture needle?
3. Which type of suture material does not require surgical removal by a physician?
4. At which anatomical level is the brachial artery typically ligated?
5. What is the clinical purpose of the Allen test?
6. Which specific anatomical layer of a nerve is sutured during nerve repair (neurorrhaphy)?
7. Describe the anatomical landmarks for the posterior approach to elbow joint puncture (arthrocentesis).

Practical Questions:

1. List the muscles of the scapular region.
2. Which muscle is innervated by the thoracodorsal nerve?

3. Which group of axillary lymph nodes is located between the lateral thoracic vein and the subscapular vein?
4. Identify the muscles between which the median nerve passes (e.g., in the proximal forearm).
5. To which bones is the extensor retinaculum attached?

Module: Topographic Anatomy and Operative Surgery of the Lower Limb

Exam Ticket 1

Theoretical Questions:

1. Against which bony structure is the femoral artery compressed to achieve temporary hemostasis?
2. Which nerves must be anesthetized (blocked) during a groin venous cutdown?
3. Through which anatomical pathways can an infection spread from the pelvic cavity to the medial aspect of the thigh?
4. At which anatomical landmark is the knee joint punctured (arthrocentesis)?
5. Which nerves form the patellar plexus?
6. To which structures is the plantar aponeurosis attached?
7. List the ligaments of the ankle (talocrural) joint.

Practical Questions:

1. Between which bones is the medial cuneometatarsal ligament located?
2. Identify the deep (superior) opening of the femoral canal (femoral ring).
3. Describe the anatomical boundaries of the popliteal fossa.
4. List the main structures contained within the sole of the foot.
5. Between which muscles does the superficial fibular (peroneal) nerve pass?

Exam Ticket 2

Theoretical Questions:

1. At which anatomical level is the femoral artery typically ligated?
2. At which anatomical landmark is a sciatic nerve block performed?
3. The pulse of which artery is typically lost (or absent) in acute compartment syndrome of the anterior leg?
4. Describe the anteromedial surgical approach for ankle joint arthrotomy.
5. Which neurovascular bundles must be ligated during a below-knee (transtibial) amputation?
6. Identify the main structures (contents) located in the lateral aspect of the ankle.
7. Between which muscles is the joint capsule penetrated during a hip joint resection?

Practical Questions:

1. Which nerve closely accompanies the small saphenous vein?
2. What structures are contained within the muscular lacuna (compartment) of the retroinguinal space?
3. Describe the anatomical boundaries of the femoral triangle.
4. List the muscles located within the medial plantar compartment (space) of the foot.
5. Identify the ligaments of the calcaneocuboid joint.

Exam Ticket 3

Theoretical Questions:

1. Describe the surface projection line of the posterior tibial artery.
2. What complication is associated with chronic venous congestion in the superficial veins of the lower limb?
3. Which anatomical structure must be incised to relieve acute anterior compartment syndrome of the leg?
4. At which anatomical landmark is the ankle (talocrural) joint punctured (arthrocentesis)?
5. Through which bones is a Sharp's amputation of the foot performed?
6. Which nerve provides sensory innervation to the lower medial quadrant of the gluteal region?
7. Identify the main structures (contents) located in the anterior aspect of the ankle.

Practical Questions:

1. Between which bones is the bifurcate ligament located?
2. Identify the lateral border of the femoral canal.
3. Between which muscles does the anterior tibial artery pass?
4. Describe the attachments (origin and insertion) of the flexor retinaculum.
5. Identify the ligaments of the tarsometatarsal joint

Module: Topographic Anatomy and Operative Surgery of the Head and Neck
Exam Ticket 1

Theoretical Questions:

1. Which structures lie superficial to the hyoglossus muscle in the submandibular triangle?
2. Which layer of the cervical fascia encloses the platysma muscle?
3. Which nerve must be carefully preserved (avoided) during a thyroidectomy?
4. Why can a scalp infection spread to the eyelids and the root of the nose?
5. Between which anatomical structures is the parapharyngeal space located?
6. How should the inferior thyroid artery be ligated during a thyroidectomy to avoid nerve injury?
7. Which arteries provide the blood supply to the trachea?

Practical Questions:

1. What are the attachments (origin and insertion) of the temporalis muscle?
2. Identify the branches of the subclavian artery.
3. List the contents of the inferior orbital fissure.
4. Describe the surface projection of the occipital artery on the scalp.
5. Between which structures is the laryngeal ventricle located?

Exam Ticket 2

Theoretical Questions:

1. Which nerve roots contribute to the formation of the ansa cervicalis?
2. The infraorbital artery is a terminal branch of which artery?
3. Which hemostatic agents or methods are typically used to control bleeding from a scalp laceration?
4. Describe the surgical incision used to drain a purulent infection (abscess) in the floor of the oral cavity.
5. Damage to which nerve results in the complete loss of phonation in a patient?
6. List the structures that pass through the foramen magnum.
7. Where is the carotid body located, and what is its physiological function?

Practical Questions:

1. Identify the nerve that provides motor innervation to the platysma muscle.
2. List the infrahyoid (strap) muscles of the neck.
3. Which branches of the external carotid artery pass through the submandibular triangle?
4. The venous angle is formed by the confluence of which veins?
5. Identify the dural venous sinuses located within the falx cerebri.

Exam Ticket 3

Theoretical Questions:

1. Which major vein is formed by (or originates from) the pterygoid venous plexus?
2. Which layer of the cervical fascia forms the sheath for the submandibular gland?
3. What is the surgical term for a craniotomy in which the bone flap is not replaced?
4. In which region of the face is a vertical mattress suture typically used?
5. To which anatomical structure is the recurrent laryngeal nerve intimately related (posing a significant surgical risk)?
6. Describe the topography and anatomical relations of the occipital artery in the suboccipital region.
7. How is the stellate (cervicothoracic) ganglion formed, and where is it anatomically located?

Practical Questions:

1. The ascending pharyngeal artery arises from which major artery?
2. Identify the arteries that provide the blood supply to the scalp.
3. Which nerve provides motor innervation to the muscles of mastication?
4. With which structure of the cranial cavity does the facial vein communicate (via valveless emissary veins)?
5. Identify the main gyri of the parietal lobe.

Module: Topographic Anatomy and Operative Surgery of the Thorax

Exam Ticket 1

Theoretical Questions:

1. List the main structures (contents) of the posterior mediastinum.
2. Describe the area of distribution (territory supplied by) the left coronary artery.
3. The thyroid ima artery typically arises from which major vessel?
4. At which vertebral level does the trachea bifurcate?
5. Through which anatomical layer is the incision typically made after a rib resection?
6. What type of surgical incision is typically made for the drainage of a breast abscess?
7. Into which part of the thorax can an infection spread posterior to the prevertebral fascia of the neck?

Practical Questions:

1. Identify the anatomical location of the sinoatrial (SA) node.
2. The oblique sinus is a part of which anatomical structure?
3. List the anatomical parts of the diaphragm.
4. List the anatomical layers pierced during a needle thoracostomy using a lateral approach.
5. From which pleural recess is fluid typically aspirated during a thoracentesis?

Exam Ticket 2

Theoretical Questions:

1. List the structures contained within the intercostal spaces.
2. At which vertebral level does the hemiazygos vein cross from left to right?
3. Describe the surface projection (marking) of the pulmonary valve.
4. What are the defining anatomical characteristics of a bronchopulmonary segment?
5. Which arteries provide the blood supply to the right lung?
6. Which surgical procedures are typically performed for the management of pleural effusion?
7. At what target body temperature is the patient maintained during cardiopulmonary bypass?

Practical Questions:

1. Identify the anatomical structures located on the interatrial septum.
2. The internal thoracic vein is a tributary of which major vein?
3. The venous angle is formed by the confluence of which veins?
4. From which anatomical structures does the right crus of the diaphragm arise?
5. Which structures are anatomically related to the cervical pleura (cupula of the pleura)?

Exam Ticket 3

Theoretical Questions:

1. Which layer of the heart wall is formed by a serous membrane?
2. Which nerve passes anterior to the esophagus in the posterior mediastinum?
3. Which surgical incision is preferred for penetrating chest wounds with uncontrolled hemorrhage?
4. In which intercostal space and along which anatomical line is a needle thoracostomy typically performed?
5. Identify the muscles that are removed during a radical mastectomy.
6. What is the surgical term for the replacement of cardiac valves?
7. At what age does the thymus reach its maximum development, and what are its typical weight and dimensions?

Practical Questions:

1. Which major vessel is formed by the confluence of the right and left brachiocephalic veins?
2. In which anatomical groove is the middle cardiac vein located?
3. At which vertebral level does the esophagus cross anterior to the descending aorta?
4. The ganglia of the sympathetic trunk are located near which part of the ribs?
5. Which anatomical structure is intimately related to the membranous (posterior) wall of the trachea?

Module: Topographic Anatomy and Operative Surgery of the Abdomen

Exam Ticket 1

Theoretical Questions:

1. Describe the anatomical landmarks for a paramedian abdominal incision.
2. Identify the anatomical remnant of the umbilical artery in the adult.
3. Why does a patient with a subphrenic abscess complain of referred pain in the shoulder?
4. List the contents of the hepatogastric ligament.
5. Which surgical technique is typically used to transect the liver parenchyma during a hepatic resection?
6. Which type of suture is used to invaginate the appendiceal stump during an appendectomy?
7. Describe the posterior anatomical relations of the pancreas.

Practical Questions:

1. Identify the vessels that serve as anatomical guides to the hepatic segments.
2. Identify the muscles of the anterior abdominal wall.
3. The inferior pancreaticoduodenal artery is a branch of which major artery?
4. Where does the accessory pancreatic duct open into the duodenum, and at what approximate distance from the pylorus?
5. Describe the surface projection of the right colic (hepatic) flexure.

Exam Ticket 2

Theoretical Questions:

1. At which anatomical landmarks is a thoracic nerve block (T7–T11) typically performed?
2. Which type of inguinal hernia passes lateral to the inferior epigastric artery?
3. On which postoperative day does serosal healing (fusion) of the intestinal wall typically occur?
4. Into which abdominal compartment can purulent fluid spread if a duodenal ulcer perforates on the anterior wall of the duodenum?
5. Which ligaments and associated lymph node groups are resected during a total gastrectomy?
6. What is the average length of the vermiform appendix?
7. Describe the dual blood supply of the liver.

Practical Questions:

1. Identify the boundaries of Calot's triangle.
2. Repair of a rupture in which solid abdominal organ is particularly challenging due to the risk of profuse bleeding?
3. Which anatomical structure partially closes off the superior aspect of the left paracolic gutter?
4. List the main vascular structures contained within the gastrocolic ligament.
5. The ligamentum venosum of the liver is the fibrous remnant of which fetal structure?

Exam Ticket 3

Theoretical Questions:

1. At which anatomical landmark(s) is an abdominal paracentesis typically performed?
2. Which type of hernia occurs due to the failure of the processus vaginalis to obliterate?
3. Identify the posterior anatomical relations of the epiploic foramen (of Winslow).
4. Which type of suture technique is preferred for intestinal anastomosis or repair?
5. Necrosectomy or percutaneous drainage is typically performed to manage severe complications of which abdominal organ?

6. In which abdominal region is the cecum typically located?
7. List the main branches of the gastroduodenal artery.

Practical Questions:
1. Identify the structures that form the anterior wall of the inguinal canal.
2. Which adjacent anatomical structure must be carefully preserved to avoid iatrogenic injury during a splenectomy?
3. The sigmoid arteries are branches of which major artery?
4. The Cantlie line passes between which two anatomical landmarks?
5. Describe the typical surgical incisions used for an appendectomy.

Module: Topographic Anatomy and Operative Surgery of the Lumbar Region and Pelvis
Exam Ticket 1

Theoretical Questions:
1. The Bergmann-Israels surgical approach is typically used for operations on which organ?
2. Which blood vessels supply the spinal cord segments corresponding to the lower limb?
3. What surgical procedure is performed in the event of maternal death during late pregnancy?
4. What is the anatomical name for the middle layer of the uterine wall?
5. Between which anatomical structures is the deep perineal pouch located?
6. Which muscles are innervated by the muscular branches of the lumbar plexus?
7. Which structures unite to form the ejaculatory duct?

Practical Questions:
1. Which ligament is typically used to peritonealize the uterine angle following the removal of the uterine tube?
2. Through which anatomical foramen does the superior gluteal nerve pass?
3. Identify the main muscles of the urogenital region.
4. Identify the synovial joints located between the vertebrae.
5. Which nerve descends in the groove between the psoas major and iliacus muscles?

Exam Ticket 2

Theoretical Questions:
1. What anatomical structure prevents the spread of purulent infection from one kidney to the other?
2. Which specific ganglion or nerve must be carefully avoided during a lumbar sympathectomy to prevent complications?
3. Specify the depth to which the needle passes into the subarachnoid space during a lumbar puncture in children.
4. At which anatomical location does the uterine artery cross the ureter?
5. Identify the nerve(s) in the pelvic cavity that contain parasympathetic nerve fibers.
6. To which bony structures is the middle layer of the thoracolumbar fascia attached?
7. Describe the arterial blood supply of the rectum.

Practical Questions:
1. Which venous plexus becomes dilated in a varicocele?
2. List the structures contained within the broad ligament of the uterus.
3. The superior vesical artery arises from which major artery?
4. Which fascial layer forms the pudendal canal (Alcock's canal)?
5. List the main branches of the lumbar plexus.

Exam Ticket 3

Theoretical Questions:

1. List the main structures contained within the spermatic cord.
2. Describe the anatomical and clinical features of external hemorrhoids.
3. List the structures that pass through the renal hilum.
4. Describe the nerve supply of the uterus.
5. At what gestational age does a fallopian tube typically rupture due to an ectopic pregnancy?
6. Which surgical procedure is typically performed prior to the surgical repair of a urethral injury?
7. To which vertebral level does the subarachnoid space extend in adults?

Practical Questions:

1. Identify the main muscle that passes through the greater sciatic foramen and divides it into superior and inferior compartments.
2. Identify the anatomical parts of the uterine tube.
3. Identify the nerves that provide sensory innervation to the skin of the perineum.
4. Which spinal nerve roots contribute to the formation of the sacral plexus?
5. Which ligament connects the laminae of adjacent vertebrae?

Appendix 3

Problem-based clinical questions

Module: Surgical Instruments, Sutures, Knots, Topographic Anatomy, and Operative Surgery of the Upper Limb

Clinical Scenario:
A 35-year-old male presents to the emergency department 1.5 hours after sustaining a sharp laceration to the anterior aspect of the middle third of the forearm. The wound is 6 cm long, gaping, with irregular edges and moderate capillary bleeding. There are no signs of infection, and vital signs are stable.

Questions:
1. What type of primary wound management is indicated for this patient, and what are its main steps?
2. Which suture technique and material are most appropriate for closing this wound to minimize tension and ensure a good cosmetic outcome?
3. Which anatomical structures (tendons, nerves, vessels) must be explicitly assessed for integrity before skin closure in this region?

Clinical Scenario:
A 68-year-old male fell on his outstretched, abducted arm. Radiography revealed a displaced fracture of the surgical neck of the humerus. Neurological examination shows an inability to actively abduct the shoulder and decreased skin sensation over the lateral aspect of the deltoid muscle ("epaulet sign").

Questions:
1. Which nerve is most likely injured in this trauma?
2. Describe the topography of this nerve within the axilla and its anatomical relationship to the surgical neck of the humerus.
3. Which blood vessels run in close proximity and could be damaged by the bone fragment or during careless closed reduction?

Clinical Scenario:
A 30-year-old male presents with throbbing pain, marked swelling, and hyperemia of the thenar eminence of the right hand. Three days ago, he sustained an untreated puncture wound to the distal phalanx of the first digit (thumb). Palpation reveals fluctuation in the thenar region, and pain sharply increases upon passive abduction of the thumb.

Questions:
1. Formulate a clinical diagnosis, specifying the affected anatomical space.
2. Describe the boundaries of this fascial space and the potential pathways for the spread of the purulent process (including into the forearm).
3. Where should the incision be made to drain this space while avoiding damage to motor nerve branches and tendons?

Module: Topographic Anatomy and Operative Surgery of the Lower Limb

Clinical Scenario:
A 78-year-old female presents to the emergency department after a mechanical fall at home. She complains of severe right hip pain and is unable to bear weight. On examination, her right lower limb is shortened and externally rotated. Radiographs confirm a displaced intracapsular fracture of the femoral neck.

Questions:
1. Which specific arterial structure is most critical for the blood supply to the femoral head and is at the highest risk of disruption in this type of fracture?
2. Describe the topographic course of this artery in relation to the femoral neck and the hip joint capsule.

3. What is the most severe long-term orthopedic complication if this blood supply is irreversibly compromised?

Clinical Scenario:
A 25-year-old male is involved in a high-speed motorcycle accident, resulting in a posterior dislocation of the right knee. Upon reduction in the emergency department, the right foot is pale and cold, with an absent dorsalis pedis pulse. Additionally, the patient is unable to dorsiflex his foot or extend his toes.

Questions:
1. Which major artery and which specific nerve have most likely been injured?
2. Describe the anatomical boundaries of the popliteal fossa.
3. Why is this specific artery particularly vulnerable to traction injury during a knee dislocation?

Clinical Scenario:
A 30-year-old male sustained a closed, displaced fracture of the mid-shaft of the right tibia and fibula. He was treated with closed reduction and a long-leg cast. Six hours later, he complains of severe, burning pain in his leg that is not relieved by intravenous opioids. Passive stretching of the toes elicits excruciating pain. The foot is pale, and capillary refill is delayed.

Questions:
1. What is the diagnosis, and what is the underlying pathophysiological mechanism?
2. Name the four osteofascial compartments of the leg.
3. Describe the surgical approach (incisions) for an emergency four-compartment fasciotomy of the leg.

Module: Topographic Anatomy and Operative Surgery of the Head and Neck

Clinical Scenario:
A 45-year-old female undergoes a superficial parotidectomy for a benign pleomorphic adenoma of the right parotid gland. On the first postoperative day, she is unable to close her right eye tightly and notices that her mouth droops to the left side when she attempts to smile. Corneal reflex on the right is intact.

Questions:
1. Which cranial nerve and specific branches have most likely been injured during the surgery?
2. Describe the topographic course of this nerve as it traverses the parotid gland, including the name of the plexus it forms.
3. What are the anatomical landmarks used by the surgeon to identify the main trunk of this nerve early in a parotidectomy to prevent such injuries?

Clinical Scenario:
A 30-year-old male presents to the ER with a 2-day history of severe pain and swelling under his chin, following an untreated infected lower left second molar. He has a high fever, difficulty swallowing (dysphagia), and is leaning forward with his mouth open. Examination reveals a firm, "woody" bilateral swelling of the submandibular region, and his tongue is elevated and protruded. He has mild inspiratory stridor.

Questions:
1. What is the clinical diagnosis, and which specific fascial spaces of the neck are primarily involved?
2. Why is this condition considering a surgical emergency, and what is the primary anatomical reason for the airway compromise?
3. Describe the surgical approach (incision) for draining this condition.

Clinical Scenario:
A 22-year-old male is punched in the jaw during an altercation. Radiographs reveal a displaced fracture of

the left mandibular angle. On clinical examination, he has numbness and paresthesia over the skin of his left lower lip and chin.

Questions:

1. Which specific nerve has been injured or compressed by the fractured bone fragments?
2. Trace the topographic course of this nerve from its entry into the mandible to its exit onto the face.
3. Which muscle attachments to the proximal (posterior) fragment of a mandibular angle fracture typically cause it to be displaced upward and medially, complicating reduction?

Module: Topographic Anatomy and Operative Surgery of the Thorax

Clinical Scenario:

A 24-year-old male is brought to the emergency department after a high-speed motor vehicle collision. He is in severe respiratory distress, tachycardic, and hypotensive. Physical examination reveals absent breath sounds on the right side, hyperresonance to percussion, and tracheal deviation to the left.

Questions:

1. What is the immediate life-threatening diagnosis, and what is the underlying pathophysiological mechanism causing the hypotension?
2. For immediate life-saving decompression, where exactly (intercostal space and anatomical line) should a large-bore needle be inserted, and what are the anatomical layers pierced?
3. For definitive management with a tube thoracostomy (chest tube), describe the anatomical boundaries of the "safe triangle" and the correct intercostal space and line for insertion.

Clinical Scenario:

A 30-year-old male presents with a stab wound to the left lower sternal border. He is pale, diaphoretic, and hypotensive (BP 80/50 mmHg). Examination reveals distended neck veins and muffled heart sounds (Beck’s triad).

Questions:

1. What is the clinical diagnosis?
2. The surgeon decides to perform an emergency subxiphoid pericardiocentesis. Describe the precise anatomical trajectory of the needle and the layers it must pierce to reach the pericardial cavity.
3. Why is the subxiphoid approach preferred over an intercostal approach in this specific emergency scenario?

Clinical Scenario:

A 65-year-old male with a 40-pack-year smoking history is diagnosed with a malignant tumor localized to the apical segment of the right upper lobe. A video-assisted thoracoscopic surgery (VATS) segmentectomy is planned.

Questions:

1. Name all the bronchopulmonary segments of the right upper lobe.
2. Describe the unique topographical relationship of the right main bronchus to the right pulmonary artery at the lung hilum (the "eparterial" relationship), and contrast it with the left lung hilum.
3. During dissection of the hilum, what is the typical anterior-to-posterior order of the major structures (pulmonary artery, bronchus, pulmonary veins)?

Module: Topographic Anatomy and Operative Surgery of the Abdomen

Clinical Scenario:

A 25-year-old male presents with a 24-hour history of abdominal pain that started periumbilically and has now localized to the right lower quadrant. He has a low-grade fever. On examination, there is minimal tenderness on anterior palpation of the right iliac fossa, but deep palpation elicits significant pain. The psoas sign is strongly positive (pain on passive extension of the right hip).

Questions:
1. Based on the clinical signs, what is the most likely anatomical position of the inflamed appendix?
2. Which artery supplies the appendix, and from which major vessel does it typically originate?
3. If an open appendectomy is performed via a gridiron (McBurney) incision, list the anatomical layers of the anterior abdominal wall that must be traversed to reach the peritoneal cavity.

Clinical Scenario:
A 65-year-old male presents to the emergency department with a painful, irreducible mass in his right groin, accompanied by nausea and vomiting. The mass is located superior and medial to the pubic tubercle. On examination, the mass does not reduce with gentle pressure, and the overlying skin is erythematous.

Questions:
1. What is the most likely diagnosis, and is it more likely to be a direct or indirect inguinal hernia based on its typical pathway?
2. Describe the anatomical relationship of this type of hernia to the inferior epigastric vessels.
3. List the contents of the spermatic cord that are at risk of compression and ischemia within the inguinal canal in this scenario.

Clinical Scenario:
A 50-year-old female undergoes a laparoscopic cholecystectomy for acute calculous cholecystitis. On the second postoperative day, she develops jaundice, right upper quadrant pain, and a bile leak is confirmed on imaging. Review of the operative notes indicates difficult dissection due to severe inflammation and anatomical variation.

Questions:
1. Which critical anatomical triangle must be clearly identified and dissected during a cholecystectomy to prevent such injuries?
2. Describe the three boundaries of this triangle.
3. What is the most common anatomical variation of the cystic artery that puts the common bile duct or right hepatic artery at risk of accidental ligation or transection?

Module: Topographic Anatomy and Operative Surgery of the Lumbar Region and Pelvis

Clinical Scenario:
A 45-year-old male presents with recurrent left flank pain and recurrent urinary tract infections. Imaging reveals a large staghorn calculus occupying the renal pelvis and calyces of the left kidney. An open pyelolithotomy via a retroperitoneal approach is planned.

Questions:
1. Which surgical approach (incision) provides optimal access to the renal hilum while minimizing the risk of entering the pleural cavity?
2. During mobilization of the kidney, the surgeon must identify the structures at the renal hilum. What is the typical anterior-to-posterior anatomical order of these structures?
3. Which adjacent anatomical structure lies immediately anterior to the left renal hilum and is at risk of iatrogenic injury during anterior dissection?

Clinical Scenario:
A 26-year-old female presents to the emergency department with sudden, severe lower abdominal pain and dizziness. She has a history of 8 weeks of amenorrhea. On examination, she is hypotensive (BP 85/50 mmHg), tachycardic, and has marked cervical motion tenderness.

Questions:
1. What is the most likely diagnosis, and into which specific peritoneal space does the blood primarily accumulate?
2. If ultrasound is unavailable, what bedside anatomical procedure can be performed through the posterior vaginal fornix to confirm the presence of hemoperitoneum, and what is this space called?

3. During surgical intervention (e.g., salpingectomy), the surgeon must ligate the bleeding vessel. Which major artery is this, and what critical adjacent structure must be identified and preserved to prevent urinary complications?

Clinical Scenario:
A 50-year-old male presents with a 4-day history of severe, throbbing, unilateral perianal pain that worsens with sitting and defecation. He has a fever of 38.5°C. Examination reveals a tender, fluctuant, erythematous mass located laterally to the anal verge, without involvement of the midline.
Questions:
1. What is the clinical diagnosis, and which specific fascial space is infected?
2. Describe the four anatomical boundaries of this space.
3. When performing surgical incision and drainage, why must the incision be made as close to the anal verge as possible, and which neurovascular bundle must be avoided?

Appendix 4

MCQs

Module: Surgical Instruments, Sutures, Knots, Topographic Anatomy, and Operative Surgery of the Upper Limb

1. A 35-year-old patient develops acute compartment syndrome of the forearm following a crush injury. A volar fasciotomy is planned to relieve the pressure. To adequately decompress both the superficial and deep flexor compartments of the forearm, which specific anatomical structure must be surgically incised?

Options:
A) Superficial fascia of the forearm
B) Deep fascia of the forearm
C) Flexor retinaculum
D) Interosseous membrane
E) Palmar aponeurosis

2. A patient sustains a fracture of the middle third of the humerus. On examination, he is unable to extend his wrist or fingers. Which nerve is most likely injured?

Options:
A) Median nerve
B) Ulnar nerve
C) Radial nerve
D) Axillary nerve
E) Musculocutaneous nerve

3. A nurse needs to draw blood from a patient's arm. Which superficial vein in the anterior elbow (cubital fossa) is most commonly and safely used for this procedure?

Options:
A) Cephalic vein
B) Basilic vein
C) Median cubital vein
D) Brachial vein
E) Axillary vein

4. A medical student is learning how to take a patient's radial pulse. Where is the radial artery most easily palpated at the wrist?

Options:
A) Medial to the flexor carpi ulnaris tendon
B) Lateral to the flexor carpi radialis tendon
C) In the center of the palm
D) Posterior to the medial malleolus
E) Between the two heads of the sternocleidomastoid muscle

5.A 30-year-old male presents with a swollen, tense, and exquisitely tender thenar eminence following an untreated puncture wound to the volar aspect of his index finger. The thumb is held in slight abduction, and passive adduction of the thumb causes severe pain. Which anatomical space is primarily infected, and what is the safest surgical approach for drainage?

Options:
A) Midpalmar space; incision along the distal palmar crease
B) Thenar space; incision along the lateral (radial) border of the thenar eminence or the proximal palmar crease

C) Space of Parona; volar forearm incision
D) Hypothenar space; incision along the ulnar border of the hand
E) First dorsal web space; dorsal incision between the 1st and 2nd digits

Module: Topographic Anatomy and Operative Surgery of the Lower Limb

1. A patient sustains a direct blow to the lateral aspect of the proximal lower leg (neck of the fibula). They subsequently develop an inability to dorsiflex the foot ("foot drop") and numbness over the dorsum of the foot. Which nerve is most likely injured?

Options:
A) Tibial nerve
B) Common fibular nerve
C) Sural nerve
D) Saphenous nerve
E) Deep fibular nerve only

2. In an emergency situation where, intravenous access cannot be obtained percutaneously, a surgeon decides to perform a venous cutdown on the lower limb. Where is the great saphenous vein most reliably and consistently found for this procedure?

Options:
A) Posterior to the lateral malleolus
B) Anterior to the medial malleolus
C) In the center of the popliteal fossa
D) Lateral to the Achilles tendon
E) Deep to the inguinal ligament

3. To accurately palpate the femoral pulse, where should the examiner place their fingers?

Options:
A) At the mid-inguinal point
B) Directly over the pubic tubercle
C) Lateral to the sartorius muscle at the mid-thigh
D) Posterior to the medial malleolus
E) In the center of the femoral triangle, 5 cm below the inguinal ligament

4. A 72-year-old female presents with a painful, non-reducible mass inferior and lateral to the pubic tubercle, diagnosed as a strangulated femoral hernia. To relieve the strangulation during emergency surgery, the surgeon may need to incise the rigid medial boundary of the femoral ring. Which structure is this?

Options:
A) Inguinal ligament (Poupart's ligament)
B) Pectineal ligament (Cooper's ligament)
C) Lacunar ligament (Gimbernat's ligament)
D) Femoral vein
E) Iliopubic tract

5. During a surgical approach to the middle third of the thigh, a surgeon opens the adductor (Hunter’s) canal. Which of the following statements accurately describes the anatomical relations or contents of this canal?

Options:
A) The femoral vein lies strictly anterior to the femoral artery within the canal.
B) The saphenous nerve and the saphenous branch of the descending genicular artery exit the canal by piercing the roof to become superficial.

C) The adductor longus muscle forms the posterior wall of the canal.
D) The deep artery of the thigh is the main arterial content of the canal.
E) The canal opens proximally at the adductor hiatus.

Module: Topographic Anatomy and Operative Surgery of the Head and Neck

1. A 45-year-old patient undergoes a superficial parotidectomy for a benign tumor. On the first postoperative day, the patient is unable to close their right eye tightly and the corner of their mouth droops when they attempt to smile. Which nerve was most likely injured during the dissection?

Options:
A) Trigeminal nerve (CN V), mandibular division
B) Facial nerve (CN VII)
C) Glossopharyngeal nerve (CN IX)
D) Vagus nerve (CN X)
E) Great auricular nerve

2. During a total thyroidectomy, the surgeon must carefully ligate the inferior thyroid artery. Which nerve is at the highest risk of iatrogenic injury at this specific location, and what would be the clinical consequence of its unilateral damage?

Options:
A) External branch of the superior laryngeal nerve; loss of high-pitched voice
B) Recurrent laryngeal nerve; hoarseness and a breathy voice
C) Vagus nerve; loss of gag reflex
D) Hypoglossal nerve; deviation of the tongue to the injured side
E) Phrenic nerve; elevated hemidiaphragm

3. A medical student is learning to palpate the carotid pulse. In which anatomical triangle and at what specific landmark is this pulse most reliably and safely felt?

Options:
A) Posterior triangle, midway along the posterior border of the sternocleidomastoid muscle
B) Carotid triangle, anterior to the sternocleidomastoid muscle at the level of the superior border of the thyroid cartilage
C) Submental triangle, just inferior to the chin
D) Muscular triangle, lateral to the trachea at the level of the cricoid cartilage
E) Supraclavicular triangle, just above the clavicle

4. A 30-year-old male presents with a high fever, dysphagia, and a firm, "woody" bilateral swelling of the submandibular region following an infected lower left second molar. His tongue is elevated and protruded, and he has mild inspiratory stridor. This condition (Ludwig’s angina) primarily involves infection of which specific combination of fascial spaces?

Options:
A) Retropharyngeal space and "danger space"
B) Parotid space and masticator space
C) Bilateral submandibular, sublingual, and submental spaces
D) Prevertebral space and carotid sheath
E) Superficial and deep temporal spaces

5. A 22-year-old male sustains a blunt force trauma to the side of his head, specifically over the pterion. He initially feels fine but deteriorates two hours later, developing a severe headache, vomiting, and a blown (dilated) pupil on the ipsilateral side. A CT scan reveals a biconvex (lens-shaped) hyperdensity. Which vessel was torn, and through which foramen does it normally enter the cranial cavity?

Options:
A) Middle meningeal artery; foramen spinosum
B) Middle meningeal artery; foramen ovale
C) Anterior meningeal artery; foramen rotundum
D) Internal carotid artery; carotid canal
E) Bridging cerebral veins; no specific foramen

Module: Topographic Anatomy and Operative Surgery of the Thorax

1. A 25-year-old male is brought to the emergency department after a stab wound to the right chest. He is in severe respiratory distress, hypotensive, and has absent breath sounds on the right side with tracheal deviation to the left. A diagnosis of tension pneumothorax is made. According to classic foundational teaching, where is the most appropriate initial site for needle decompression?

Options:
A) 4th intercostal space at the mid-axillary line
B) 2nd intercostal space at the mid-clavicular line
C) 5th intercostal space at the anterior axillary line
D) 8th intercostal space at the mid-scapular line
E) Subxiphoid region

2. During a thoracic surgery rotation, a student is asked to identify the structures at the root (hilum) of the left lung. What is the typical anatomical arrangement of the main structures from anterior to posterior?

Options:
A) Main bronchus, pulmonary artery, superior pulmonary vein
B) Pulmonary artery, main bronchus, superior pulmonary vein
C) Superior pulmonary vein, pulmonary artery, main bronchus
D) Superior pulmonary vein, main bronchus, pulmonary artery
E) Pulmonary artery, superior pulmonary vein, main bronchus

3. A medical student is practicing cardiac auscultation. To best hear the sounds of the mitral valve, the stethoscope should be placed at which anatomical landmark?

Options:
A) 2nd intercostal space at the right sternal border
B) 2nd intercostal space at the left sternal border
C) 4th intercostal space at the left sternal border
D) 5th intercostal space at the left mid-clavicular line
E) Xiphoid process

4. During an esophagectomy for lower third esophageal cancer, the surgeon must carefully dissect the posterior mediastinum to avoid injuring a major lymphatic vessel. This vessel ascends on the right side of the vertebral column and typically crosses over to the left side before emptying into the left venous angle. At which vertebral level does this crossover most commonly occur?

Options:
A) T2
B) T4–T5
C) T8
D) T10
E) T12

5. A cardiac surgeon is performing a complex procedure involving the posterior wall of the left atrium and passes a finger through the oblique pericardial sinus. Which vital structure lies immediately

posterior to this sinus, separated only by the fibrous pericardium, and is at high risk of iatrogenic injury (e.g., atrio-esophageal fistula) during extensive posterior left atrial dissection or ablation?

Options:
A) Descending (thoracic) aorta
B) Thoracic duct
C) Esophagus
D) Azygos vein
E) Left main bronchus

Module: Topographic Anatomy and Operative Surgery of the Abdomen

1. A 22-year-old male presents with right lower quadrant pain, nausea, and a low-grade fever. The surgeon plans an open appendectomy using a classic gridiron incision. Where is McBurney's point, the surface projection of the base of the appendix, located?

Options:
A) At the midpoint of a line drawn from the umbilicus to the right anterior superior iliac spine (ASIS)
B) At the junction of the lateral one-third and medial two-thirds of a line drawn from the right ASIS to the umbilicus
C) At the junction of the medial one-third and lateral two-thirds of a line drawn from the right ASIS to the umbilicus
D) Directly lateral to the umbilicus at the level of the iliac crest
E) Midway between the xiphoid process and the umbilicus

2. During a laparoscopic cholecystectomy, the surgeon must achieve the "critical view of safety" to prevent iatrogenic injury to the biliary tree. Which of the following structures forms the **medial** boundary of Calot's triangle (cystohepatic triangle)?

Options:
A) Cystic duct
B) Common bile duct
C) Common hepatic duct
D) Inferior surface of the liver
E) Cystic artery

3. A 60-year-old male is diagnosed with a direct inguinal hernia. This type of hernia protrudes through a specific area of weakness in the anterior abdominal wall known as Hesselbach's triangle. What forms the **lateral** boundary of this triangle?

Options:
A) Inguinal ligament (Poupart's ligament)
B) Lateral border of the rectus abdominis muscle
C) Inferior epigastric vessels
D) Conjoint tendon
E) Deep inguinal ring

4. During surgery for a bleeding duodenal ulcer, a surgeon inserts a finger into the epiploic foramen (of Winslow) and compresses the hepatoduodenal ligament anteriorly to control hemorrhage (the Pringle maneuver). Which major vascular structure forms the **posterior** boundary of this foramen and lies directly behind the surgeon's finger?

Options:
A) Abdominal aorta
B) Inferior vena cava (IVC)
C) Portal vein

D) Left renal vein
E) Superior mesenteric artery

5. A 35-year-old patient requires an emergency splenectomy following blunt abdominal trauma. While clamping and ligating the splenic vessels at the splenic hilum, the surgeon must be extremely careful to avoid iatrogenic injury to an adjacent retroperitoneal organ that frequently extends into the splenorenal (lienorenal) ligament. Which structure is this?

Options:
A) Left kidney
B) Tail of the pancreas
C) Left adrenal (suprarenal) gland
D) Descending colon
E) Left ureter

Module: Topographic Anatomy and Operative Surgery of the Lumbar Region and Pelvis

1. A physician is preparing to perform a lumbar puncture on an adult patient to obtain cerebrospinal fluid. To safely avoid injuring the spinal cord, the needle must be inserted below the level where the cord terminates. Which surface anatomical landmark is most reliably used to identify the L4 vertebra or the L4-L5 interspace?

Options:
A) A line connecting the posterior superior iliac spines
B) A line connecting the highest points of the iliac crests
C) The lowest palpable rib (12th rib)
D) The level of the umbilicus
E) A line connecting the anterior superior iliac spines (ASIS)

2. During a total abdominal hysterectomy, the surgeon is ligating the uterine vessels near the lateral fornix of the vagina. To prevent iatrogenic injury, the surgeon must identify a tubular structure that passes immediately *inferior* and posterior to the uterine artery (often remembered by the mnemonic "water under the bridge"). What is this structure?

Options:
A) Fallopian tube
B) Round ligament of the uterus
C) Ureter
D) Ovarian artery
E) Uterine vein

3. An obstetrician is administering a transvaginal pudendal nerve block to provide analgesia for an operative vaginal delivery. To accurately deposit the local anesthetic near the pudendal nerve as it crosses the sacrospinous ligament, the physician must palpate which specific bony landmark?

Options:
A) Ischial tuberosity
B) Pubic symphysis
C) Ischial spine
D) Coccyx
E) Sacral promontory

4. A 25-year-old male sustains a straddle injury, resulting in a complete rupture of the spongy (penile) urethra. He attempts to void, and urine extravasates into the superficial perineal pouch. The urine spreads into the scrotum, penis, and lower anterior abdominal wall, but it *does not* spread into the thigh. Which anatomical structure prevents the urine from tracking down into the lower limb?

Options:
A) Perineal membrane
B) Fascia lata of the thigh
C) Colles' fascia
D) Scarpa's fascia
E) Dartos fascia

5. A 60-year-old male undergoes a low anterior resection for mid-rectal cancer. During the deep pelvic dissection and mobilization of the rectum, the surgeon must carefully preserve the autonomic nerves to avoid postoperative erectile dysfunction and urinary retention. Which specific nerves, originating from the S2-S4 spinal levels and carrying parasympathetic fibers, are most at risk during the division of the lateral ligaments of the rectum?

Options:
A) Superior hypogastric plexus
B) Hypogastric nerves
C) Pelvic splanchnic nerves
D) Ilioinguinal nerves
E) Pudendal nerves

Appendix 5

Discipline flow chart (General Medicine)

Discipline: Topographic anatomy and operative surgery
Option/track:
Group:
Credits quantity: ZE = 3
Reporting: credit and exam report card
Senior lecturer:

Subject name	Control	Control forms	min	max	week
Module 1					
1. Surgical Instruments, Sutures, Knots, Topographic Anatomy, and Operative Surgery of the Upper Limb	current control	General questioning, notes, practical task	3	5	5
	midterm examination	tests	10	18	
Module 2					
2. Topographic Anatomy and Operative Surgery of the Lower Limb	current control	General questioning, notes, practical task	3	5	10
	midterm examination	tests	10	18	
Module 3					
3. Topographic Anatomy and Operative Surgery of the Head and Neck	current control	General questioning, notes, practical task	3	5	16
	midterm examination	tests	11	19	
Attendance			2	2	
Total Semester Points			40	70	
Midterm Assessment			20	30	
Module Rating			60	100	

Remarks:
1. For each absence in lecture or practical session – reduce 1-point Discipline flow chart (General Medicine)

Discipline: Topographic anatomy and operative surgery
Option/track:
Group:
Credits quantity: ZE = 3
Reporting: credit and exam report card
Senior lecturer:

Subject name	Control	Control forms			
Module 1					
1. Topographic Anatomy and Operative Surgery of the Thorax	current control	General questioning, notes, practical task	3	5	24
	midterm examination	tests	10	18	
Module 2					
2. Topographic Anatomy and Operative Surgery of the Abdomen	current control	General questioning, notes, practical task	3	5	29
	midterm examination	tests	10	18	
Module 3					
3. Topographic Anatomy and Operative Surgery of the Lumbar Region and Pelvis	current control	General questioning, notes, practical task	3	5	35
	midterm examination	tests	11	19	
Attendance			2	2	
Total Semester Points			40	70	
Midterm Assessment			20	30	
Final Course Rating			60	100	

Remarks:
1. For each absence in lecture or practical session – reduce 1 point.

Appendix 6.

List of types of assessment scales.

The scale of formative assessment

1st semester

Subject	**Practical session, hour**	**Lecture, hour**	**Share in percentage, %**	**Points**	
				min	**max**
Module 1 Surgical Instruments, Sutures, Knots, Topographic Anatomy, and Operative Surgery of the Upper Limb	10	4	31	13	23
Module 2 Topographic Anatomy and Operative Surgery of the Lower Limb	10	4	31	13	23
Module 3 Topographic Anatomy and Operative Surgery of the Head and Neck	12	8	38	14	24
Total	32	16	100	40	70

№ п/п	**Discipline control**	**Share in Percent**	**Points**	
			min	**max**
1	General questioning	0-60 %	10	18
2	Conspectus	0-10 %	3	5
3	Practical session	0-30 %	13	23
4	Activity	-	2	2
5	Attendance	-	2	2
6	Midterm examination	-	10	20
7	Total		40	70

2nd semester

Subject	**Practical session, hour**	**Lectures, hour**	**Share in percentage, %**	**Points**	
				min	**max**
Module 4 Topographic anatomy and operative surgery of the thorax	10	4	31	13	23
Module 5 Topographic anatomy and operative surgery of the abdomen	10	6	31	13	23
Module 6 Topographic anatomy and operative surgery of the pelvis	12	6	48	14	24
Total	32	16	100	40	70

№ п/п	Discipline control	Share in Percent	Points		
			min	max	
1	General questioning	0-60 %	10	18	
2	Conspectus	0-10 %	3	5	
3	Practical session	0-30 %	13	23	
4	Activity	-	2	2	
5	Attendance	-	2	2	
6	Midterm examination	-	10	20	
7	Total		40	70	

Criteria for educational work during 1st semester are the amount from 30 to 50 points – the admission to midpoint assessment.
The tasks for formative assessment – represent by questions

The KNOWLEDGE – 60 % of the right answers

CALL and SHOW – 40 % of the right answers

It is necessary to show on anatomical models ten parts of various organs.
The level of value:
0-100 % 26 – 30 points – excellent
0-85% 21 - 25 points – good
0-50% 15 - 20 points – satisfactory
less than 15 points –unsatisfactory

Midterm examination - checking the completeness of knowledge and abilities is carry out by testing. The level of ability values up to 40 points.

Criteria for testing results and the admission to examination is the positive answer on 60 % of the set questions.

The maximum value of control:
- Formative assessment – 30 points – 30 %;
- Midterm examination – 40 points – 40 %;
- Midpoint assessment (examination) – 30 points – 30 %.

The total result of examination is reflected by a scale:
85 – 100 points – excellent
70 – 84 points – good
60 – 69 points – satisfactory
less than 60 points – unsatisfactory

At the exam the student can get the maximum points - 30. The student can obtain the following marks based on the his/her answers:
21-30 points: He/she has skills in working with the literature. He/she is able to orient in topography and know the structure of organs. The student answers for the questions represented in the task and also can answers for additional questions.
11-20 points: He/she has basic skills in working with literature. He/she is able to find and show parts of the body on the specimens. The student answers for the questions represented in the task, but not fully answers for additional questions.
6-10 points – The student is able to navigate in the structure of the human body. He/she answers not fully for the questions represented in the task and for additional questions.
2-5 points - The student difficulty answers for questions of the task and demonstrates poor knowledge in answering additional questions.
0 points - The student does not know the material.