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## MEDICAL INSTITUTE

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

## **COURSE SYLLABUS**

# TOPOGRAPHIC ANATOMY AND OPERATIVE SURGERY OF THE HEAD AND NECK

course title

# **Recommended by the Didactic Council for the Education Field of:**

**31.05.03 DENTISTRY** 

field of studies / speciality code and title

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

DENTISTRY

higher education programme profile/specialisation title

2024/2025

# **1. INTERNSHIP GOAL(S)**

The discipline "Topographic anatomy and operative surgery of the head and neck" is included in the program of the specialty "Dentistry" in the direction of 31.05.03 "Dentistry" and is studied in the 4th semester of the 2nd year. The discipline is implemented by the Department of Operative Surgery and Clinical Anatomy named after I.D. Kirpatovsky. The discipline consists of 3 sections and 12 topics and is aimed at studying the development of the theoretical foundations of topographic anatomy and operative surgery.

The study of the topographic anatomy of specific areas, the clinical anatomy of internal organs, as well as the types, principles and techniques of basic surgical operations. Acquisition of practical skills in general operational techniques.

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

### 2. REQUIREMENTS FOR LEARNING OUTCOMES

The course **«Topographic anatomy and operative surgery of the head and neck»** is expected to contribute the following competences:

COMPETENCE	COMPETENCE DESCRIPTOR	COMPETENCE FORMATION INDICATORS
CODE		(WITHIN THIS COURSE)
GPC-7	Being able to organize work and	GPC-7.1. Being able to use the
	take professional decisions in	algorithm for providing first aid in
	case of emergency conditions,	emergency conditions, including in
	amid emergencies, epidemics,	extreme conditions and foci of mass
	and in the foci of mass	destruction.
	destruction	GPC-7.2. Identifying conditions
		requiring emergency medical care,
		including clinical signs of sudden
		cessation of blood circulation and acute
		respiratory failure.
		GPC-7.3. Providing emergency medical
		care to patients with conditions that pose
		a threat to the patient's life, including
		clinical death (cessation of the vital
		bodily functions (blood circulation and
		(or) breathing).
		GPC-7.4. Using drugs and medical
		products when providing emergency
		medical care.
GPC-9	Being able to assess morpho-	GPC-9.3. Determining morpho-
	functional, physiological	functional, physiological states and
	conditions and pathological	pathological processes of the human
	processes in the human body to	body.
	solve professional tasks	-

Table 2.1. List of competences that students acquire during the internship

# **3. INTERNSHIP IN HIGHER EDUCATION PROGRAMME STRUCTURE**

The internship refers to the core/variable/elective **«Topographic anatomy and operative surgery head and neck»** refers to the Compulsory Disciplines of block B1 block of the higher educational programme curriculum.

\* Underline whatever applicable. The core component includes all introductory field internships, the variable component includes all advanced field internships, except for research and pre-graduate types of the internship. The elective module includes all research and pre-graduation types of the internship (if any).

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

Competence Code	The competence	Previous Disciplines	Subsequent Disciplines
GPC-7	Being able to organize work and take professional decisions in case of emergency conditions, amid emergencies, epidemics, and in the foci of mass destruction		Diseases of the head and neck; Implantology and reconstructive surgery of the oral cavity; General Surgery; Surgical diseases; Maxillofacial and gnatic surgery; Obstetrics; Disaster Medicine; Epidemiology; Medical rehabilitation; Emergency conditions in outpatient dental practice; Urgent conditions; General medical skills;
GPC-9.3	Determining morpho-functional, physiological states and pathological processes of the human body.	Histology, Embryology, Cytology - Oral Histology; Microbiology, virology - Microbiology of the oral cavity; Normal physiology, physiology of the maxillofacial region; Biological Chemistry - Biochemistry of the oral cavity; Human Anatomy - Anatomy of the head and neck;	Pediatric Dentistry; Diseases of the head and neck; Implantology and reconstructive surgery of the oral cavity; Local anesthesia and anesthesiology in dentistry; Orthodontics and pediatric prosthetics; Oral Surgery; Maxillofacial and gnatic surgery; Obstetrics; Pathophysiology - Pathophysiology of the head and neck; Forensic medicine; Medical rehabilitation; Radiation diagnostics; Pathological anatomy - Pathanatomy of the head and neck; Ophthalmology;

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

# 4. INTERNSHIP WORKLOAD

The total workload of the discipline **«Topographic anatomy and operative surgery of the head and neck»** is equal to **3** credits.

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

Types of academic activities	Total, academic	Semester
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	hours (ac.h)	4
Classroom learning , <i>ac.h</i> .	54	54
Lectures (Lec)		
Lab work (Lab)	54	54
Practical/seminar classes (PC/SC)	0	0
Self-studies, academic hours	36	36
Self-study (ies), academic hours	18	18
Evaluation and assessment (exam/pass/fail grading), hours	108	108
Credits	3	3

# **5. INTERNSHIP CONTENTS**

Modules	Table 5.1. Internship contents   Type of academic activities   Type of academic activities		
	Topia 11 Theoretical foundations of topographic	LAB	
Module 1.	<b>Topic 1.1.</b> Theoretical foundations of topographic	LAB	
	anatomy. Topographic anatomy and operative		
Topographic	surgery as an educational discipline and its place in		
anatomy of the head	the training of doctors. Applied anatomy and its main		
nead	types. Fascias and cellular spaces of the face, and their		
	clinical value.	Lip	
	<b>Topic 1.2.</b> Topographic anatomy of the cranial part of	LAB	
	the head. Borders, areas and regions. External		
	landmarks. Topographic anatomy of the cerebral part		
	of the head. Fronto-parietal-occipital, temporal		
	regions, the area of the mastoid process. Brain.		
	Meningeas of the brain and intermeningeal spaces.		
	Sinuses of the dura mater. Blood supply to the brain.		
	Features of arterial blood supply and venous outflow		
	of the head.	<b>T</b>	
		Lab	
	the head. Borders, division into regions. Layers.		
	Blood vessels and nerves, lymphatic drainage.		
	Anterior face region. The area of the orbit.		
	Infraorbital and zygomatic areas. Nose area. External		
	nose. Nasal cavity. Paranasal (accessorial) sinuses.		
	Pathways of pus spreading at maxillitis and sinusitis.	-	
	<b>Topic 1.4.</b> Topographic anatomy of the mouth region.	LAB	
	Borders and parts of the region. Surgical anatomy of		
	the upper and lower lips. Oral cavity. The vestibule of		
	the mouth. Teeth, periodont, parodont, gums. The		
	hard palate, soft palate, tongue and the sublingual		
	space. The bottom of the oral cavity: the muscles,		
	cellular tissue gaps and spaces. Topographic-		
	anatomical substantiation of anesthesia in maxillo-		
	facial surgery (infiltration, extra- and intraoral,		
	conduction anesthesia during operations on the		
	maxillodental segment, the teeth, formations of the		
	oral cavity).		

#### Table 5.1. Internship contents

	Topic 1.5. Topographic anatomy of the lateral	LAB
	superficial face region. External landmarks. The	
	borders. Layers. Surgical anatomy of the facial nerve	
	and its branches. Buccal region. Fat body of the	
	cheek. Parotid-masseteric region. Surgical anatomy	
	of the parotid gland and its excretory duct. Surgical	
	anatomy of the temporomandibular joint.	
	<b>Topic 1.6.</b> Topographic anatomy of the deep lateral	LAB
	region of the face. Borders. Temporo-pterygoid,	LAD
	interpterygoid, parapharyngeal, retropharyngeal	
	spaces and their contents. Pterygoid venous plexus and its connections with the facial veins and	
	cavernous sinus. Maxillary artery and its branches.	
	Mandibular branch of the trigeminal nerve and its	
	branches. Lymph nodes area. Cellular spaces and	
	ways of spreading purulent leaks.	
Module 2.	Тема 2.1. Division into areas, regions and triangles.	LAB
Topographic	Fascia and cellular spaces of the neck. Connections of	
anatomy of the	the neck cellular spaces with cellular spaces of the	
neck	head and thorax. The median area of the neck. The	
	submandibular and carotid triangles. Surgical	
	anatomy of the submandibular salivary gland. The	
	submandibular and omotracheal triangles.	
	<b>Topic 2.2.</b> Sterno-claido-mastoid region. Scaleno-	LAB
	vertebral triangle. The lateral neck region. The	LAD
	topography of the subclavian artery and vein, the	
	brachial plexus. Antescalene and interscalene spaces.	
	Surgical anatomy of: larynx, trachea, pharynx,	
	cervical esophagus and thyroid gland.	-
Module 3.	<b>Topic 3.1.</b> Operative surgery: content and methods of	LAB
Operative	study. The basics of the doctrine of surgery. Modern	
surgery of the		
head and neck	for surgery and anesthesia. General surgical	
	technique. Surgical instruments. Basic operational	
	techniques: separation of tissues, stop bleeding, put	
	on and removal of skin nodes sutures, tying surgical	
	knots.	
	Topic 3.2. Operations on the head. Primary surgical	LAB
	treatment of the head wounds. Trepanation.	
	Trepanation of mastoid procesus. Incisions at	
	parotiditis. Restorative and reconstructive operations	
	in malformations of the lips, palate. Incisions in	
	phlegmon of the mouth floor.	LAD
	<b>Topic 3.3.</b> Operations on the neck. Primary surgical	Lab
	treatment of neck wounds. Incisions in phlegmon of	
	the neck. Tracheostomy. Conicotomy. Operations on	
	the thyroid gland.	
	<b>Topic 3.4.</b> Organ and tissue transplantation. Types of	LAB
	transplantation. Features of organ transplant surgery.	
	The main problems and prospects for the	
	development of transplantology.	
	development of transplantology.	

# 6. INTERNSHIP EQUIPMENT AND TECHNOLOGY SUPPORT REQUIREMENTS

Table 6.1. Logistical and material provision of the discipline

Classroom for Academic Activity Type	Classroom Equipment	Specialized educational/laboratory equipment, software and materials for the mastering of the discipline
Laboratory № 2 (234)	Classroom for workshops or lab work, tutorials, interim and mid-term assessment, equipped with a set of professional medical tables, anatomical, plastinated and wet anatomical materials and multimedia projectors.	List of visual anatomical posters, tables, models, bas-reliefs. plastinated materials (preserved (cadaveric) plastinated biomaterial); wet anatomical specimens (preserved (cadaveric) biomaterial in formalin solution in glass containers). Technology support: Epson EMP-S1 multimedia projector; a stable wireless Internet connection. Software: Microsoft Windows, MS Office / Office 365, MS Teams, Chrome (latest stable release), Skype.
Laboratory № 3 (235)	Classroom for seminars (workshops), group and individual consultations, interim and mid-term assessments, equipped with a set of specialized furniture; whiteboard (screen) and multimedia presentation equipment.	Set of specialized equipment: operating microscope "Carl Zeiss Jena"; endovideosurgical complex "Azimuth"; anatomical table "Anatomage" (interactive 3D-visualization, 3D- visualization table); sets of general and special surgical instruments; visual posters, tables, stands. Technology support: NEC VT59 multimedia projector; stable wireless Internet connection. Software: Microsoft Windows, MS Office / Office 365, MS Teams, Chrome (latest stable release), Skype. Simulators for operative surgery: human skin, vascular, intestinal simulator, suture kits, surgical instruments.
Seminar Classroom № 4, 5	Classroom for seminars (workshops), group and individual consultations, interim and midterm assessments, equipped with a set of specialized furniture; whiteboard (screen) and multimedia presentation equipment.	Set of specialized furniture: desk with faux stone top; portable shadowless lamp. Negatoscope H-48. Technology support: Epson EB-W29 multimedia projector, stable wireless Internet connection. Software: Microsoft Windows, MS Office / Office 365, MS Teams, Chrome (latest stable release), Skype.

Classroom for Academic Activity Type	Classroom Equipment	Specialized educational/laboratory equipment, software and materials for the mastering of the discipline
Self-study room № 1 (232)	Room for students' self-study (it can also be used for seminars and consultations), equipped with a set of special furniture and a whiteboard (screen), and multimedia presentation equipment, with access to the E- learning environment.	Technology support: Epson EMP-S1 multimedia projector, internet access. Software: Microsoft Windows, MS Office / Office 365, MS Teams, Chrome (latest stable release), Skype. Simulators for operative surgery: human skin, vascular, intestinal simulator, suture kits, surgical instruments.

# 7. RESOURCES RECOMMENDED FOR INTERNSHIP

## Main reading:

- 1) Topographic anatomy and operative surgery: textbook/A.V.Nikolaev.-Moscow.-Geotar-Media, 3-rd ed.-2021.-671 p.
- 2) Topographic anatomy and operative surgery: textbook/A.V.Nikolaev.-Moscow.-Geotar-Media/- 2021.-672 p.

https://lib.rudn.ru:443/MegaPro/UserEntry?Action=Link\_FindDoc&id=497916&idb=0

- 3) Netter's Clinical Anatomy/J.T. Hansen, F.H. Netter. 4th Edition. Philadelphia: Elsevier, 2019. 588 p.
- 4) Gray's Anatomy for Students / R.L. Drake, W.A. Vogl, Mitchell Adam W.M. Third Edition. Philadelphia: Elsevier, 2015. 1161 p.: il.

# Additional reading:

# **Printed publications:**

 Topographic and anatomy of the human body: the teaching aid for foreign students/I.I.Kagan, S.N.Lyashchenko, A.O.Mironchev.- Moscow.-Geotar-Media, 2022.-256

https://lib.rudn.ru:443/MegaPro/UserEntry?Action=Link\_FindDoc&id=508879&idb=0

- 2) Topographic and clinical anatomy the human body/I.I.Kagan, S.N.Lyashchenko, A.O.Mironchev.- Moscow.-Geotar-Media, 2022.-253 p.
- 3) Anatomy for plastic surgery of the Face, Head and Neck/ Koichi Watanabe-Mohammadali M. Shoja, Marios Loukas, R.Shane Tubbs.-2016.-242 p. <u>HTTPS://LIB.RUDN.RU/MEGAPRO/WEB/SEARCHRESULT/TOPAGE/1#:~:TEXT=HTTPS%3A//L IB.RUDN.RU%3A443/MEGAPRO/USERENTRY%3FACTION%3DRUDN\_FINDDoc%26ID%3 D513494%26IDB%3D0</u>
- 4) Atlas of human anatomy/ F.H. Netter. 6th ed.; International edition. Philadelphia: Saunders: Elsevier, 2014. 591 p.: il

### Internet sources

1. ELS of RUDN University and third-party ELS, to which university students have access: - <u>http://lib.rudn.ru/MegaPro/Web</u>

- <u>http://www.biblioclub.ru</u>
- <u>http://www.biblio-online.ru</u>
- www.studentlibrary.ru

2. Databases and search engines:

http://docs.cntd.ru/

- <u>https://www.yandex.ru/</u>

- https://www.google.ru/

- http://www.elsevierscience.ru/products/scopus/

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

1. Lectures presentations on the themes of workshops

2. Guidelines and visual materials for self-study

3. Toolkits for computer-based test and interim and mid-term assessment preparation

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

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

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

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

### **DEVELOPERS:**

Associate Professor of the Department of Operative surgery and Clinical anatomy named for I.D. Kirpatovsky

**HEAD of the Department:** 

Of Operative surgery and Clinical anatomy named for I.D. Kirpatovsky

### **HEAD of the Higher Education Program:**

Deputy Director for International Affairs of Medical Institute of the RUDN University

Y.Sh.Gushchina

A.V. Protasov

D.L. Titarov