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ФИО: Ястребов Олег Александрович  
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**Federal State Autonomous Educational Institution of Higher Education  
PEOPLES' FRIENDSHIP UNIVERSITY OF RUSSIA  
NAMED AFTER PATRICE LUMUMBA  
RUDN University**

**Institute of Medicine**

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

**COURSE SYLLABUS**

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**LOCAL ANESTHESIA AND ANESTHESIOLOGY IN DENTISTRY**

course title

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

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**31.05.03 Dentistry**

field of studies / speciality code and title

**The course instruction is implemented within the professional education programme of higher education:**

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**Dentistry**

higher education programme profile/specialization title

## 1. COURSE GOAL(S)

The discipline "Local anesthesia and anesthesiology in dentistry" is included in the program of the specialty "Dentistry" in the direction 05/31/03 "Dentistry" and is studied in the 5th semester of the 3rd year. The discipline is implemented by the Department of Maxillofacial Surgery and Surgical Dentistry. The discipline consists of 4 sections and 14 topics and is aimed at studying local anesthesia and anesthesiology in dentistry, as well as the basics of tooth extraction.

The goal of the course «**Local anesthesia and anesthesiology in dentistry**» is to train a dentist who is able to examine a patient, choose an adequate method of anesthesia, and provide dental surgical care.

## 2. REQUIREMENTS FOR LEARNING OUTCOMES

Mastering the course (module) «**Local anesthesia and anesthesiology in dentistry**» is aimed at the development of the following competences /competences in part: **GPC -2, GPC -5, GPC -9, PC -1, PC -2, PC -3, PC 5.**

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

Competence code	Competence descriptor	Competence formation indicators (within this course)
GPC-2	Able to analyze the results of his/her own activities to prevent professional errors	GPC -2.1. Analyze the causes of professional errors, adverse treatment outcomes and conflict situations.
		GPC-2.2. scientifically justifies and implements recommendations aimed at improving the medical and legal training of dentists and preventing professional errors, adverse outcomes and conflict situations.
GPC -5	Able to exam a patient in order to establish a diagnosis when dealing with professional tasks	GPC -5.1 Collect anamnesis, analyze patient's complaints, conduct physical examination at dental appointments.
		GPC -5.2 Formulate a preliminary diagnosis and plan laboratory and instrumental examinations of the dental patient
GPC -9	Able to assess morpho functional states and pathological processes in the human body in order to solve professional problems	GPC -9.1. Have an algorithm for clinical-laboratory and functional diagnostics when solving professional tasks.
		GPC -9.2 Evaluates the results of clinical, laboratory and functional diagnostics in solving professional tasks.
PC-1	Able to diagnose children and adults with dental diseases, making a diagnosis	PC-1.1. Conducts initial and/or follow-up examination of a patient to establish a preliminary diagnosis.
		PC-1.2. Receives information from patients (their relatives/legal representatives), conducts patient questionnaires on general health status, identification of comorbidities in order to establish a preliminary diagnosis.

<b>Competence code</b>	<b>Competence</b>	<b>Indicators of Competence Formation (within the framework of this discipline)</b>
PC-2	Able to prescribe and administer treatment for children and adults with dental diseases, monitor its effectiveness and safety	PC-2.1. Organizes emergency and urgent medical care for acute dental diseases, conditions, exacerbations of chronic diseases that are life-threatening for the patient or without clear signs of life-threatening for the patient.
		PC-2.2: Conducts the selection of medicines and medical devices (including dental materials) for the treatment of dental diseases, assessing the possible side effects of medication.
PC-3	Able to provide medical care in an emergency and urgent manner	PC-3.1 Provides qualified medical care in their specialty, using modern rehabilitation techniques approved for use in medical practice. PC-3.2 Draw up an individual rehabilitation plan for a patient with maxillofacial diseases.
PC-5	Able to carry out medical examinations of children and adults with dental conditions	PC-5.1. motivates patients (their relatives/legal representatives) to lead a healthy lifestyle and give up harmful habits.
		PC-5.2. shapes patients (their relatives/legal representatives) into positive behaviors aimed at maintaining and improving their health.

### 3. COURSE IN HIGHER EDUCATION PROGRAMME STRUCTURE

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

\* - Underline whatever applicable.

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

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

<b>Competence code</b>	<b>Competence descriptor</b>	<b>Previous courses/modules*</b>	<b>Subsequent courses/modules*</b>
GPC-2	Able to analyze results	Anatomy of dentistry - Anatomy of the head and	Oral surgery, orthopedic dentistry,

	to prevent professional errors in their own activities	Neck, propaedeutics of dental diseases	restorative dentistry
GPC-5	Able to exam a patient in order to establish a diagnosis when dealing with professional tasks	Anatomy of dentistry - Anatomy of the head and neck, Propaedeutics of dental diseases	Oral surgery, orthopedic dentistry, general dentistry
GPC-9	Able to assess morpho functional states and pathological processes in the human body in order to solve professional problems	Anatomy of dentistry - Anatomy of the head and neck, Propaedeutics of dental diseases	Oral surgery, orthopedic dentistry, general dentistry
PC-1	Able to diagnose children and adults with dental diseases, making a diagnosis	Anatomy of dentistry - Anatomy of the head and neck, Propaedeutics of dental diseases	Oral surgery, orthopedic dentistry, general dentistry
PC-2	Able to prescribe and administer treatment for children and adults with dental diseases, monitor its effectiveness and safety	Anatomy of dentistry - Anatomy of the head and neck, Propaedeutics of dental diseases	Oral surgery, orthopedic dentistry, general dentistry
PC-3	Able to provide medical care in an emergency and urgent manner	Anatomy of dentistry - Anatomy of the head and neck, Propaedeutics of dental diseases	Oral surgery, orthopedic dentistry, general dentistry
PC-5	Able to carry out medical examinations of children and adults with dental conditions	Anatomy of dentistry - Anatomy of the head and neck, Propaedeutics of dental diseases	Oral surgery, orthopedic dentistry, general dentistry

\* To be filled in according to the competence matrix of the higher education programme.

#### 4. COURSE WORKLOAD AND ACADEMIC ACTIVITIES

The total workload of the course is 2 credits (72 academic hours).

Table 4.1. Types of academic activities during the periods of higher education programme mastering (**full-time training**)\*

Type of academic activities		Total academic hours	Semesters/traini ng modules
			5
<i>Contact academic hours</i>		51	51
including:		-	-
Lectures (LC)			
Lab work (LW)		51	51
Seminars (workshops/tutorials) (S)			
<i>Self-studies</i>		18	18
<i>Evaluation and assessment (exam/passing/failing grade)</i>		3	3
<b>Course workload</b>	academic hours	<b>72</b>	<b>72</b>
	credits	<b>2</b>	<b>2</b>

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

## 5. COURSE CONTENTS

*Table 5.1. Course contents and academic activities types*

Course module title	Course module contents (topics)	Academic activities types
Section 1 Organization of a surgical office	1.1 Organization of the surgical department / office of the dental clinic. Asepsis and antiseptics during operations on the face and in the oral cavity. Prevention of infectious diseases in dental practice (HIV infection, hepatitis B/C, syphilis). Examination of a surgical dental patient. Deontology and medical ethics.	LW
Section 2 General anesthesia in dentistry	2.1 General anesthesia: classification, features of general anesthesia during operations on the face and in the oral cavity; Anesthesia: classification, indications, contraindications, stages, complications. Basics of intensive care.	LW
Section 3 Local anesthesia in dentistry	3.1 Premedication. Local anesthesia in dentistry. Classification. Local anesthetics, groups of local anesthetics, characteristics of groups of local anesthetics.	LW
	3.2 Types of instruments needed for local anesthesia. Non-injection methods of anesthesia, infiltration anesthesia. Indications, types, features, methods of treatment, local and general	LW
	3.3 The structure of the upper jaw (innervation, blood supply). Types of conduction anesthesia on the upper jaw. Incisor anesthesia. Palatal anesthesia. Indications, types, features, methods of treatment, local and general complications.	LW
	3.4 Infraorbital anesthesia. Tuberal anesthesia. Indications, types, features, methods of treatment, local and general complications.	LW
	3.5 The structure of the lower jaw (innervation, blood supply). Types of conduction anesthesia on the lower jaw. Mental anesthesia. Mandibular anesthesia. Anesthesia of the lingual nerve. Anesthesia of the buccal nerve. Indications, types, features, methods of treatment, local and general complications.	LW
	3.6 Thoracic anesthesia. Anesthesia according to Go – Gates. Anesthesia of the lower jaw with difficulty opening the mouth (according to Berchet, Lagardie, Vazirani – Akinosi). Indications, types, features, methods of treatment, local and general complications.	LW
	3.7 Stem anesthesia. Anesthesia of the N.maxillaris trunk. Anesthesia of the n.mandibularis trunk. Indications, types, features, methods of treatment, local and general complications.	LW

Section 4 Tooth and roots extraction surgery	4.1 Features of operations on the face and in the oral cavity. Features of surgical intervention in people with concomitant diseases. Instruments needed to perform the tooth extraction operation.	LW
	4.2 Removal of teeth and their roots in the upper jaw (simple). Features, methods, local and general complications.	LW
	4.3 Removal of teeth and their roots in the upper jaw (difficult). Features, methodology, local and general complications.	LW
	4.4 Removal of teeth and their roots in the lower jaw (simple). Features, methods, local and general complications.	LW
	4.5 Removal of teeth and their roots in the lower jaw (difficult). Features, methods, local and general complications.	LW

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

## 6. CLASSROOM EQUIPMENT AND TECHNOLOGY SUPPORT REQUIREMENTS

*Table 6.1. Classroom equipment and technology support requirements*

Type of academic activities	Classroom equipment	Specialised educational / laboratory equipment, software, and materials for course study (if necessary)
Lab-work	An auditorium for laboratory work, individual consultations, ongoing monitoring and midterm assessment, equipped with a set of specialized furniture and equipments.	A set of specialized furniture; Interactive complex: Epson EB680Wi projector (V11H742041); Dell Optiplex 7780 512 GB+1 Tb monoblock; Logitech Wireless Presenter Professional R700 presenter; Software: Yandex products (office application package, including Yandex Documents/ Yandex 365, Teleconference, Messenger); 100x150 magnetic marker board see; Simulators: heads, GF dental, Upper and lower jaw model for practicing manipulations in surgical dentistry (manufacturer: DentalStore/ Dental Store, Italian Republic (Italy), Dental implantological

		<p>portable surgical device Implantmed SI-923. Manufacturer: "Vi und Ha Dental". Werk Burmoos GmbH / Republic of Austria, Dental surgical tip S-9 LG (1:1 (manufacturer: W&amp;H Dentalwerk Burmoos GmbH/Vi und Ha Dental Werk Bürmoos GmbH, Republic of Austria; 10-piece color-coded skull model, GF dental; PHT dental phantom, GF dental, Phantom table edge mount; Instrument set: Kidney-shaped tray LMP - "MEDICON", 200x120x30 (V=0.3n) ((Medicon) Anatomical straight tweezers 150 x 2.5 mm. ((SammarInt.), Dental Curved Psi tweezers (150x0.8 mm) (MIZ); Double-sided medium curette (curettage spoon), Needle holder, 14 cm (121-315) (Medenta), Forceps for tooth extraction, Elevator, set of 10 pieces. (Asa Dental).. (SammarInt.), Kidney- shaped tray LMP - "MEDICON", 200x120x30 (V=0.3n) (Medicon), Curved dental tweezers Psi (150x0.8mm) (MMIZ) Tooth extraction forceps, Elevator, set of 10 pieces. (Asa Dental)</p>
		<p>A set of specialized furniture; Interactive complex: Projector Epson EB680Wi (V11H742041). Country of origin Philippines, Monoblock Dell Optiplex 7780 512 GB + 1 TB., Presenter Logitech Wireless Presenter Professional R700; Software: Microsoft products (OS, office application package,</p>

Self-studies	A classroom for independent work of students (can be used for conducting seminars and consultations), equipped with a set of specialized furniture and computers with access to the Electronic Information System.	including MS Office / Office 365, Teams); Magnetic marker board 100x150 cm.; Simulators: Dental phantom PHT, GF dental, Mount on the edge of the phantom head table, GF dental, Model of the upper and lower jaw for practicing manipulations in surgical dentistry (manufacturer: Dental Store / Dental Store. Italian Republic (Italy)), Installation dental implantological portable surgical Implantmed SI-923. Manufacturer: «Vi und Ha Dental». Werk Burmoos GmbH" / Republic of Austria, Dental surgical tip S-9 LG (1:1 (manufacturer: W&H Dentalwerk Burmoos GmbH / Wi und Ha Dental Werk Burmoos GmbH, Republic of Austria, Skull model consisting of 10 parts with color marking, GF dental; Set of tools: Double-sided medium curette (11 curette spoon), Needle holder, 14 cm (121-315) (Medenta), Straight anatomical tweezers 150 x2.5 mm. (SammarInt.), Kidney-shaped tray LMP - "MEDICON", 200x120x30 (V = 0.3n) (Medicon), Curved dental tweezers Psi (150x0.8 mm) (MMIZ) Tooth extraction forceps, Elevator, set of 10 pieces. (Asa Dental)
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\* - the audience for independent work of students **MUST** be indicated!

## 7. RESOURCES RECOMMENDED FOR COURSE STUDY

### *Main readings:*

1. Хирургическая стоматология: учебник / С.В. Тарасенко, Е.А. Морозова, И.В. Бондаренко [и др.]; под редакцией С.В. Тарасенко. - Электронные текстовые данные. - Москва: ГЭОТАР-Медиа, 2021. - 672 с. -. - ISBN 978-5-9704-6211-9.

## 2. Кулаков А.А.

Хирургическая стоматология и челюстно-лицевая хирургия : практическое руководство / А.А. Кулаков, Т.Г. Робустова, А.И. Неробеев ; Кулаков А.А., Робустова Т.Г., Неробеев А.И. - Москва : ГЭОТАР-Медиа, 2015. - 928 с.

3. Сохов С.Т. / Удаление зубов под местным обезболиванием. Атлас : учебное пособие / С.Т. Сохов, В.В. Афанасьев, М.Р. Абдусаламов ; Сохов С.Т., Афанасьев В.В., Абдусаламов М. Р. - Москва : ГЭОТАР-Медиа, 2020. - 112 с.

### *Additional readings:*

1. Нежелательные реакции на местные анестетики при их применении в стоматологии / А. В. Матвеев, А. Е. Крашенинников, Р. И. Ягудина [и др.]<br>// Стоматология. - 2020. - № т. 99 (6). - С. 82 - 88.

2. Анисимова Е.Н. / Особенности безопасного местного обезболивания у пациентов с бронхиальной астмой / Е.Н. Анисимова, М.В. Громовик<br>// Стоматология. - 2017. - № т. 96 (3). - С. 52 - 54.

3. Топографическая анатомия и оперативная хирургия: учебник в 2-х томах. Т. 1 / В.И. Сергиенко, Э.А. Петросян, И.В. Фраучи; под ред. Ю.М. Лопухина. - 3-е изд., испр. ; Электронные текстовые данные. - Москва: ГЭОТАР-Медиа, 2023. - 832 с. - ISBN 978-59704-7234-7.

### *Source of information and literature from the Internet:*

1. RUDN University Electronic Library System and third-party electronic library systems to which university students have access on the basis of concluded agreements

- Electronic library system of RUDN - EBS RUDN

<http://lib.rudn.ru/MegaPro/Web>

- Electronic library system "University library online" <http://www.biblioclub.ru>

- EBS Yurayt <http://www.biblio-online.ru>

- Electronic library system "Student Consultant" [www.studentlibrary.ru](http://www.studentlibrary.ru)

- EBS "Troitsky Bridge"

2. Databases and search engines

- electronic fund of legal and normative-technical documentation

<http://docs.cntd.ru/>

- Yandex search engine <https://www.yandex.ru/>

- Google search engine <https://www.google.ru/>

- SCOPUS abstract database

<http://www.elsevierscience.ru/products/scopus/>

*Educational and methodological materials for independent work of students in mastering a discipline/module\*:*

1. A course of lectures on the subject "Local anesthesia and Anesthesiology in dentistry".

\* - all educational and methodological materials for independent work of students are posted in accordance with the current procedure on the discipline page in **TUIS!**

## **8. ASSESSMENT TOOLKIT AND GRADING SYSTEM\* FOR EVALUATION OF STUDENTS' COMPETENCES LEVEL UPON COURSE COMPLETION**

The assessment toolkit and the grading system\* to evaluate the competences formation level (GPC -2, GPC -5, GPC -9, PC -1, PC -2, PC -3, PC 5) upon the course study completion are specified in the Appendix to the course syllabus.

\* The assessment toolkit and the grading system are formed on the basis of the requirements of the

relevant local normative act of RUDN University (regulations / order).

**DEVELOPERS:**

Associate Professor of the Department  
Maxillofacial Surgery and Surgical  
Dentistry

\_\_\_\_\_  
*Position, Basic Curriculum.*

\_\_\_\_\_  
*Sign*

Trufanov V.D.

\_\_\_\_\_  
*Surname, N. P*

**HEAD OF THE Basic  
Curriculum:**

Head of Department  
Maxillofacial Surgery and  
Surgical Dentistry

\_\_\_\_\_  
*Position, Basic Curriculum.*

\_\_\_\_\_  
*Sign*

Ivanov S. Yu.

\_\_\_\_\_  
*Surname, N. P*

**HEAD OF THE HIGHER  
EDUCATION CURRICULUM**

Deputy Director of Institute  
of Medicine

\_\_\_\_\_  
*Position, Basic Curriculum.*

\_\_\_\_\_  
*Sign*

Razumova S. N.

\_\_\_\_\_  
*Surname, N. P*