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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**  
**RUDN University named after Patrice Lumumba**  
*Institute of Medicine*

*educational division -faculty/institute/academy*

**COURSE DESCRIPTION**

31.05.03 Dentistry

field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Three-dimensional Computer Modeling of Teeth
<b>Course Workload</b>	Credits and academic hours- 2 credits (108)
<b>Course Contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
Introductory lesson. The concept of CAD / CAM system. The history of the development of CAD / CAM systems in dentistry. Structure CAD \ CAM systems.	The concept CAD / CAM sistema.Istoriya development of CAD / CAM systems in Russia and mire.Istorichesky essay on the development of the company Sirona. General characteristics and review of existing CAD / CAM systems in the world. Principles and stages of work CAD / CAM systems. Compare CAD-CAM systems for laboratory fabrication of structures and cabinet systems Systems of open and closed .. The materials of construction
Dissection teeth under orthopedic structures made by milling	Recovery Methods dentition hard tissue defects. Classification of cavities by Black localization, classification ADO tabs. Formation of cavities, walls, occlusal edges. Preparation under inley / onlay / overlay inlays, crowns.
Getting the optical impression	The concept of "optical impression". Overview 3Dskanerov and intra-oral camera in prosthetic dentistry. Prepare to receive the impression, the basic requirements. matting errors. Stages optical impression removal, obtaining the medial / distal enlarged impression. Quality control of the optical impression. Typical errors when removing optical impression.
Working with the CAD	The main program for example, the company Sirona. Familiarization with the CEREC system user interface (menu: configuration, settings, tools, configuration, calibration)..

	Screen toolbar (input administrative data ekvatornaya line, a line of preparation, interproximal contacts, to construct models of instruments). Construction crown via buccal picture and the Registrar of occlusion. Registrar of the central occlusion. Choice of dental tooth library.
Work program CEREC SW 4	Construction onlay / inlay tabs, overlay, a single crown. Working with the milling program (milling otmodelirovannyh earlier designs).
Materials for milling prosthetic	Classification of materials for the manufacture of orthopedic structures. Features and indications. Blocks for aesthetic dentistry characteristics during milling.
Methods of processing orthopedic structures after milling	Sintering .Optimalnye modes .Vliyanie parameters on accuracy, durability, aesthetics of future work. Polishing or glazing restorations. Individualization ceramic restorations using ceramic materials and paints.
Fixing restorations	Adhesive cementation of restorations. Dual-cure cements. Representatives, their properties and differences. Stages fixing various ceramic restorations
Digital Opportunities	Additional features digital-gingival production of prostheses, protective guides for templates preparation teeth individual spoons.

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**COURSE DESCRIPTION**

**31.05.03 Dentistry**

field of studies / speciality code and title  
2022-2023

<b>Course Title</b>	Three-dimensional x-ray Diagnostic Methods in Dentistry
<b>Course Workload</b>	Credits and academic hours – 2 credits (108)
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
Ray examination methods in dentistry. Indications. Side effects. Complications. Intraoral and extraoral dental radiography. Cone-beam computed tomography in the practice of a dentist Demonstration of clinical department material.  The practical part. Education of the patient positioning during radiation survey	The discovery of X-rays. The main types of radiation survey in dentistry. The principles of imaging during intraoral radiography, orthopantomography, and cone-beam helical CT. Analysis of the rules of patient positioning during a particular study. Advantages and disadvantages of the methods. Concepts pixel voxel Hounsfield scale, dicom.
Radiation safety of the dentist during the radiation survey. Artifacts and computed tomography solutions.  The practical part. Education means radiation protection. Working with computed tomography to remove artifacts from the metal.	SanPiN norms, recommendations on radiological methods of examination of children, pregnant women and other groups of persons. Workers Group A and Group B. Radiation exposure for one study for each method. Errors of two-dimensional and three-dimensional diagnostic techniques. What is the artifact types of artifacts, a means of eliminating artifacts.
X-ray anatomy maxillofacial according cone-beam computed tomography.  The practical part. Working with CT ability to visualize the basic anatomic structure during treatment planning.	Important structure of upper and lower jaw according to computed tomography. Their definition, localization features. study of the structure of the paranasal sinuses, TMJ, mandibular canal, incisive canal, alveolar-antral artery. Determination of the anatomical structure of the tooth, especially tooth root channel-system and in CBCT imaging.
Rentgenosemiotika major dental diseases dental reception.	Diagnosing dental caries according to CBCT. Non-carious lesions of dental hard tissues. dental

The practical part. Working with CT scanning zone for analysis to identify pathological formations	anomalies. Periodontitis and their X-ray picture. Parodont. Periodontal structure. Vizaulizatsiya and evaluation of periodontal according cone-beam computed tomography.
Rentgenosemiotika major dental diseases dental reception.  The practical part. Working with CT scanning zone for analysis to identify pathological formations	Retention and misplacement teeth. Anomalies of the teeth and jaws. Odontogenic cysts and neodontogennye. Diagnosis by computed tomography. Evaluation of prevalence. Planning for dental implantation according to the radiological survey
Using programs viewer cone-beam computed tomography to analyze a pathological condition  The practical part. skills development of work programs in order to maximize the information for the purpose of diagnosis and treatment.	Testing of manual skills on the possibility of obtaining a diagnostic image of the tooth, jaw, or anatomical structure. Conducting linear measurements. Adjusting the picture viewing mode. Construction of the panoramic imaging zonogrammy and lateral cross-sections. Ability to work in 3D-mode.

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**COURSE DESCRIPTION**

31.05.03 Dentistry

field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Topographic Anatomy and Operative Surgery of Head and Neck
<b>Course Workload</b>	Credits and academic hours – 3/108
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
Module 1. Topographic anatomy of the head	<p>Topographic anatomy and operative surgery as an educational discipline and its place in the training of doctors. Applied anatomy and its main types. Operative surgery: contents and methods of study.</p> <p>Topographic anatomy of the head. SC Topographic anatomy of the cerebral part of the head. Cranial vault. 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. SC Topographic anatomy of the facial part of the head. 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. SC</p> <p>Topographic anatomy of the mouth 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.</p> <p>Topographic-anatomical substantiation of anesthesia in maxillo-facial surgery (infiltration, extra- and intraoral, conduction anesthesia during operations on the maxillo-dental segment, the teeth, formations of the oral cavity). SC Topographic anatomy of the lateral superficial face region. 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 SC duct. Surgical anatomy of the temporomandibular joint. Topographic anatomy of</p>

	the deep lateral face region. Venous pterygium plexus. Surgical anatomy of the maxillary artery and mandibular nerve. Cellular spaces and pathways of spreading burrowing pus
Module 2. Topographic anatomy of the neck	The division into the parts, regions and triangles. Fascias and cellular spaces of the neck. The middle region of the neck. Submandibular and carotic triangles. Surgical anatomy of the submandibular salivary gland. Submental and scapular-tracheal triangles. SC Sterno-claido-mastoid region. Scaleno-vertebral triangle. The lateral neck region. The 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. Operative surgery of the head and neck	Surgical instruments. Suture material. The main elements of operational techniques are: the separation of tissues, stop bleeding, application and removal of skin sutures, tying ligature knots. Operations on the head. Primary surgical 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. Operations on the neck. Primary surgical treatment of neck wounds. Incisions in phlegmon of the neck. Tracheostomy. Conicotomy. Operations on the thyroid gland.

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**COURSE DESCRIPTION**

31.05.03 Dentistry

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field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Propaedeutics of Dental Diseases
<b>Course Workload</b>	Credits and academic hours – 6/216
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
1.Module Propedeutics of conservative dentistry.	Topic 1.1. Examination of the patient in the practice of a dentist. Medical records, medical history. Basic and additional methods of examination. instruments for examining a dental patient. Rules for filling the dental formula.
	Topic 1.2. The concept of caries, classification. Pathogenesis of the development of the carious process. Methods of treatment of caries. Stages of preparation of cavities. Isolation of the operating field: rubber dam.
	Topic 1.3. Principles and stages of preparation of carious cavities I, Black class and VI . Elements of the formed cavity. Toolkit. Restoration with various materials. Possible errors and complications, their prevention.
	Topic 1. 4. Principles and stages of preparation of carious cavities of class V according to Black. Elements of the formed cavity. Toolkit. Restoration with various materials. Possible errors and complications, their prevention.

	<p>Topic 1.5. Basic principles and stages of preparation of carious cavities of class II according to Black. Restoration with various materials. Possible errors and complications, their prevention.</p>
	<p>Topic 1.6. The basic principles and stages of preparation of carious cavities of the III class according to Black. Restoration with various materials. Possible errors and complications, their prevention.</p>
	<p>Topic 1.7. Basic principles and stages of preparation of carious cavities of class IV according to Black. Restoration with various materials. Possible errors and complications, their prevention.</p>
	<p>Topic 1.8. Colloquium 1.</p>
	<p>Topic 1.9. The concept of endodont, periodontal disease. The pulp of the tooth. Anatomical and topographic features of the structure of the cavity of the teeth of the maxilla and mandible. Indications for endodontic treatment. Methods of treatment of pulpitis. Stages of endodontic treatment. The concept of "opening" and opening the cavity of the tooth. Anatomical and topographic landmarks used to open the cavity of an intact tooth. Errors in the opening of the tooth cavity and their prevention.</p>
	<p>Topic 1.10. Endodontic tools, purpose, standardization. Instruments for root canal treatment, passage, and expansion. Types of movement of instruments in the canal. Methods for determining the working length of the root canal. Errors in determining the working length.</p>
	<p>Topic 1.11. Standardized root canal treatment technique. Stages of endodontic treatment of the root canal. Medications for root canal treatment. Ways to chemically expand root canals. Errors in mechanical and drug treatment of the root canal.</p>
	<p>Topic 1.12. Instrumental and medical treatment of root canals. "Step-back" and "crown-down" methods. Errors in mechanical and drug treatment of the root canal.</p>



	<p>Devitalizing (necrotizing) agents, their purpose and application Impregnation methods of treatment of pulpitis. Errors and complications in impregnation methods of pulpitis treatment.</p>
	<p>Methods of obturation of root canals. Method of filling root canals with one paste and one (central) pin method. Errors and complications, their prevention.</p>
	<p>Topic 1.15. Methods of obturation of root canals. Lateral and vertical condensation method. Mistakes and complications, their prevention.</p>
	<p>Topic 1.16. Colloquium 2.</p>
	<p>Topic 1.17. Final colloquium.</p>
	<p><i>Total: 17 lessons (2 course - 3 semester).</i></p>
<p>Module 2. Propaedeutics of prosthetic dentistry.</p>	<p>Topic 2. 1. Biomechanics of the mandible movements. The concept of the dental, alveolar, and basal arch (arc of Kemeny). Articulation, occlusion, types of bite. Definition of Central occlusion, signs.</p>
	<p>Topic 2.2. Biomechanics of the mandible movements. The concept of the occlusal surface and the occlusal plane. Articulation and dynamic occlusion. Paths and angles of the mandible movements in different planes. Occludator , application. Articulator, application.</p>
	<p>Topic 2.3. Defects in the coronal part of the tooth and the crown restoration with prosthetic methods, IDOST. Indications for the use of inlays. Features of tooth preparation for inlays. Methods of manufacturing of the inlays (direct, indirect).</p>
	<p>Topic 2.4. Types of artificial crowns, indications. Requirements for artificial crowns. Special features of tooth preparation for the swaged crowns, instruments. Clinical and laboratory stages of swaged crowns manufacturing.</p>

	<p>Topic 2.5. Indications and contraindications for prosthetic treatment of the tooth and tooth arch with the casted, porcelain fused to metal, resin fused to metal fixed constructions. Materials used for their production, physicochemical properties. Features of the tooth preparation for the casted, porcelain fused to metal, resin fused to metal fixed crowns. Retraction of the gum and its types. Two-layer impression, its purpose, materials. Manufacturing of the combined separable models, materials, methods. The concept of “the step”, its purpose, types. Clinical and laboratory stages of casted constructions manufacturing.</p>
	<p>Topic 2.6. Casted, porcelain fused to metal, resin fused to metal crown. Requirements for the frame of such structures and facing material, their physical and chemical properties. Two-layer impression, its purpose, materials. Manufacturing of the combined separable models, materials, methods. Technology of manufacture of porcelain fused to metal, resin fused to metal dentures. Method for manufacture of temporary (substitute) structures. Features of preparation of teeth under a ceramic crown. Clinical and laboratory stages of manufacturing ceramic structures.</p>
	<p>Topic 2.7. Indications for arch defects treatment with dental bridges, materials, used for it. Special features of teeth preparation for dental bridges. Clinical and laboratory stages of manufacturing</p>
	<p>Topic 2.8. Post construction. Standard and individual manufacture. Clinical and laboratory stages of manufacturing.</p>
	<p>Topic 2.9. Colloquium 1.</p>
<p>Module 3. Propaedeutics of surgical dentistry.</p>	<p>Topic 3.1. Anatomic and topographic features of structure and innervation of the upper and lower jaws. Anesthetics. Instruments for injective anesthesia. Types of local anesthesia in dentistry. Peripheral (infiltrative and application) anesthesia. Types, methods, indications.</p>
	<p>Topic 3.2. Methods and ways of Field blocks on the upper jaw</p>

	Topic 3.3. Methods and ways of Field blocks on the lower jaw
	Topic 3.4. Indications and contraindications for tooth extraction. Stages of tooth extraction. Special features of construction of the forceps for upper teeth extraction. Ways of handling.
	Topic 3.5. Instruments, methods and special features of teeth and roots extraction on the upper jaw. Doctor's position and position of the patient.
	Topic 3.6. Instruments, methods and special features of teeth and roots extraction on the lower jaw. Doctor's position and position of the patient.
	Topic 3.7. Methods of root extraction on the lower and upper jaw using elevators and handpiece. Wound treatment after complex tooth extraction and care for it.
	Topic 3.8. General and local complications after local anesthesia and tooth extraction. Reasons and solving
	Topic 3.9. Colloquium.
	<i>Total: 18 lessons (2 course - 4 semester)</i>

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**COURSE DESCRIPTION**

31.05.03 Dentistry

field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Prosthodontics (Complex Prosthetics)
<b>Course Workload</b>	Credits and academic hours – 8/288
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
1 Replacement of dentition defects with fixed prosthodontics structures	Partial teeth absence. Methods of patient examination. Compelling reasons of using bridge (bridgework) restoration. Indications and contraindication for using bridgeworks. Principle of abutment teeth choosing. Types of bridgeworks . Clinical and laboratory steps of bridge restoration treatment. Principle of abutment teeth preparation. Try in and fixation of bridge restoration. Quality criteria of bridgework. Items of bridgework care.
2. Removable denture treatment	Examination of patient with partial teeth absence for future planing removable restoration. Indications and contraindications for removable denture restoration. False teeth selection. Landmarks for false teeth setting up. Clinical steps of quality checking. Criteria of removable denture quality. Clasp dentures. Indications and contraindications for clasp denture restoration, basic structural elements. Clinical and laboratory steps. The methods of clasp and partial dentures try-in. Criteria of removable denture quality. Rules for the use and care of removable dentures.
3 Prosthetic treatment of periodontal diseases	Etiology, pathogenesis, classification, clinical manifestations of periodontal disease. Modern methods of diagnosis in the clinic of prosthetic dentistry. Clinical and biomechanical substantiation of the orthopedic stage of complex treatment of patients with periodontal disease, especially the design of medical devices and prostheses. Clinical and laboratory stages of manufacturing splinting structures.

4 Prosthetic treatment of increased abrasion of hard tissues of teeth	Etiology, pathogeny, classification and clinical symptoms of excessive attrition of teeth. Diagnostic aids and prosthetic restoration of excessive attrition of teeth.
5 Prosthetic treatment of deformations and anomalies of dentition and bite.	Etiology, pathogenesis, classification, clinical manifestations of deformation of the dentition and bite in the partial absence of teeth. Modern methods of diagnosis. Methods of elimination of deformation and justification of tactics of management of patients with this pathology. Stages of treatment.
6 Prosthetic treatment of patients with dentures supported by implants	Indications and contraindications to the use of dentures based on implants. Features of clinical and laboratory stages of prosthetic treatment with removable and fixed dentures based on implants.
7 Prosthetic treatment of patients with somatic diseases. Prosthetic treatment of patients with chronic diseases of the oral cavity.	Tactics of prosthetic treatment patients with somatic pathology (CVS, GIT, endocrine diseases, cancer of oral cavity, mental diseases, infection diseases (HIV, tuberculosis, candida), chronic diseases of skin and mucous of oral cavity and lips)

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**COURSE DESCRIPTION**

31.05.03 Dentistry

field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Prosthodontics (Simple Prosthetics)
<b>Course Workload</b>	Credits and academic hours – 2/72
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
<b>Section 1.</b> Methods of examination of patients in the clinic of prosthetic dentistry. Organization of prosthetic dental care.	<b>Topic 1.1</b> Modern equipment, machines, tools at the workplace of a prosthodontist. Medical documentation, rules for filling it. Sanitary and anti-epidemic measures. Methods of examination of patients in the clinic of prosthetic dentistry: clinical and additional. Additional survey methods. Xray methods of examination. Indications for X-ray examination. "Reading" of X-rays. Methods for determining the functional state of the dentition (static, functional). Medical documentation and rules for filling it. Medical case as a scientific medical and legal document. <b>Topic 1.2</b> Pathology of hard tissues of teeth. Classification. Etiological factors, clinic. Diagnostics. Basic and additional diagnostic methods. Diagnostic models. Characterization of impressions and impression materials. Features of alginate impression materials. Assessment of the quality of impressions. Getting plaster models. Analysis of diagnostic models. Differential diagnosis. Features of filling out a medical outpatient card (form 43-u) for patients with defects in dental hard tissues.
<b>Section 2.</b> Methods of prosthetic treatment of patients with defects of hard dental tissues by inlays.	<b>Topic 2.1</b> Treatment of pathology of hard tissues of teeth. Types of dentures that restore the anatomical shape and size of the destroyed tooth crown. The choice of the method of orthopedic treatment depending on the index of destruction of the clinical crown. Cavity classifications. Indications and contraindications for inlay prosthetics. Types, classification of inlays. Clinical requirements for inlays. <b>Topic 2.2</b> Materials for making inlays. Methods for modeling inlays (clinical and laboratory). Clinical and laboratory stages of making inlays. Features of preparation for various types of inlays. Modern materials and technologies for the manufacture of inlays in prosthetic dentistry.
<b>Section 3.</b> Methods of prosthetic treatment of patients with defects of hard dental tissues by crowns	<b>Topic 3.1</b> Artificial crowns. Types, classification of artificial crowns. Indications and contraindications for prosthetics with artificial crowns. Clinical requirements for artificial crowns. Materials for the manufacture of artificial crowns. <b>Topic 3.2</b> Features of preparation of

teeth in the manufacture of stamped metal crowns. Criteria for assessing the quality of tooth preparation. Prevention of errors and complications at the stage of preparing teeth for crowns.

**Topic 3.3.** Artificial crowns. Clinical and laboratory stages of prosthetics with metal stamped crowns. Clinical stage of fitting a metal swaged crown. Requirements to be met by a metal swaged crown and quality assessment criteria. Determination of the depth of immersion in the gingival groove. The presence of contact points, the tightness of the edge of the crown to the tooth tissues, analysis of restoration of the shape of the dentition, determination of contact with antagonists. Possible errors at the clinical and laboratory stages of the manufacture of stamped metal crowns and complications during their use.

**Topic 3.4.** Prosthetic treatment with cast all-metal crowns. Indications and contraindications. Principles, techniques, features of tooth preparation. The method of forming the gingival ledge, its shape, location in relation to the gum. Methods of expansion (retraction) of the periodontal sulcus. Fitting a cast all-metal crown. Clinical requirements to be met by all-metal cast crowns. Determination of the tightness of the crown to the tooth tissues.

**Topic 3.5.** Artificial cast all-metal crowns. Laboratory stages of manufacturing a cast all-metal crown. Features of making working models. Technique of precision casting of metal alloys. Characteristics of metal alloys for the manufacture of solid structures. Composition, properties. Requirements to be met by alloys for metal-ceramic crowns. Working and additional impressions.

**Topic 3.6.** Artificial combined crowns. Features of preparation with a shoulder. Materials for veneering crowns. Features of the frameworks of metal-plastic and metal-ceramic crowns. Working silicone two-layer one-step and two-step impressions **Topic 3.7.** Metal-ceramic crowns. Laboratory stages of production of metal-ceramic crowns. Ceramic facing materials: composition, properties. Correction of the color of the cladding. Glazing of a metal-ceramic crown. Occlusal fit.

**Topic 3.8.** Metal-ceramic crowns. The peculiarity of the clinical stages of prosthetics. Checking the availability of space for the application of the facing material. Selection of the color of the facing material. Fitting a metal-ceramic crown in the oral cavity. Correction of the occlusal relationship. Possible errors at the clinical and laboratory stages of the manufacture of metalceramic crowns, their consequences and methods. Disadvantages of combined crowns.

**Topic 3.9.** Prosthetic treatment of dental hard tissue defects with ceramic crowns. Indications and contraindications for their use. Features of preparation of teeth. Obtaining impressions. Clinical and laboratory stages of manufacturing. Materials for the manufacture of ceramic crowns, their composition, properties.

The stage of choosing the color in the orthopedic treatment of patients with defects in the hard tissues of the teeth. Hardware method. **Topic 3.10.**

Artificial crowns. Acrylic crowns. Indications and contraindications. Clinical and laboratory stages of

	<p>prosthetics with acrylic crowns. Features of tooth preparation. Fitting a acrylic crown. Disadvantages of acrylic crowns. Temporary crowns. One-stage (clinical) fabrication of temporary acrylic crowns. Technique and materials for temporary fixation</p>
<p><b>Section 4.</b> Methods of prosthetic treatment of patients with total destruction of the crown of the tooth.</p>	<p><b>Topic 4.1.</b> Complete absence (destruction) of the tooth crown. Etiology. Methods of orthopedic treatment with complete destruction of the tooth crown. Types of prosthetic pin structures (anchor pins, stump pin tabs, pin teeth). Indications for choosing a method of treatment with a pin construction, depending on the clinical condition of the gingival part of the root. Requirements to be met by the root and its periapical tissues for prosthetics.</p> <p>Modern technologies for the manufacture of pin structures. Restoration with stump pin structures. Preparation of the gingival part and root canal. Direct method of making a wax composition with a pin. An indirect method of making a postcore structure.</p>
<p><b>Section 5.</b> Methods of prosthetic treatment of patients with defects of hard dental tissues. Clinical step: cementation of restorations.</p>	<p><b>Topic 5.1.</b> Clinical stage of fixation of the orthopedic structure. Fixation is a temporary constant; cement, adhesive. Types of cements and materials used for fixing crowns, inlays, veneers, post structures. Features of the adhesive fixation technique. Factors influencing the choice of the fixation technique</p> <p><b>Topic 5.2.</b> Crowns removal techniques, sawing and debonding tools and techniques.</p>

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**COURSE DESCRIPTION**

31.05.03 Dentistry

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field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Prosthodontics of Edentulous Patient
<b>Course Workload</b>	Credits and academic hours – 3/108
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
1. Methods of survey, diagnostics of patients with edentulous jaws	Peculiarities of clinical survey of patients with edentulous jaws. Definition of morphological peculiarities hard and soft tissues of prosthetic field, the degree of atrophy of the bone tissue of the alveolar processes and the body of the jaws, compliance of mobility of the mucosa. Structure and relation of edentulous jaws. Classification of edentulous jaws. Compliance and mobility of the oral cavity mucosa. Classification of mucosa by Supple. Zones by Lund. Buffer zones by Gavrilov.
2. Methods of prosthetic treatment of patients with edentulous jaws	Fixation and stabilization of complete dentures. Biophysical and functional factors laying in the basis of fixation of complete dentures on edentulous jaws. Meaning of flap zone. Anatomical impressions, method of taking impression, materials. Individual trays, characteristics, methods of fabrication and materials that are used. Adjustment of individual trays by Gerbst. Impression materials. Obtaining and assessment of functional impressions. Justification of the choice of impression material for getting functional impressions. The borders of denture's basis with edentulous jaws. Fabrication of wax rims. Determination of centric relation with edentulous jaws. Anatomic – physiological method of recovery of

	<p>jaws relation of lower part of the face.  Rules of occlusion and articulation of teeth. Design of dentition with edentulous jaws in orthognatic bite. Features of setting teeth in orthognatic and progenic relations of alveolar processes.  «Spherical» theory of articulation, it's realisation in practical recovery of dentitions with edentulous jaws.</p> <p>Try-in of wax construction of complete dentures. Analysis and correction of doctors' and dental technician mistakes in determination of centric relation. Delivery of full dentures. Rules of maintenance and adjustments of full dentures. Patient follow-up. Adaptation to complete dentures.</p>
3. Clinical and laboratory stages of manufacturing complete dentures	<p>Injection molding of acrylic resin. Methods of flasking of dentures. Types of resin for denture base. Polymerization mode. The consequences of violating the polymerization mode. Clinical and laboratory stages of manufacturing of complete denture with various base (acrylic, double-layered, replication of palatal rugae). The peculiarities of prosthetic treatment of toothless patients with the decreased vertical dimension of occlusion (VDO), secondary prosthetic treatment, mucosal diseases and gag reflex. Bilayer basis of complete dentures with edentulous jaws. Indications, manufacturing procedure.</p>

**Developers:**

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**COURSE DESCRIPTION**

31.05.03 Dentistry

field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Methodology of Teaching Russian as a Foreign Language
<b>Course Workload</b>	Credits and academic hours – 2/72
<b>Course Contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
General questions of methodology of teaching RFL	The role and importance of the Russian language in the modern world. Methods of teaching Russian as a foreign language, communication psychology and linguistics. The purpose, principles, methods of teaching trials. Features of teaching trials at the initial stage (A1-A2): purposes and content.
Teaching grammar	The role of grammar in the process of achieving the major goals of practical training trials. Selection language material. Using speech samples. Types of exercises. The noun. Gender, number, animation and case. The connection with the native language. Prepositional-case system of Russian language. Meaning cases. Principles of approach to the study and sequence of study of prepositional-case system. Difficulties in the assimilation of the case system of Russian language. Verbal system. View-time subsystem. Conjugation. Classes of verbs. Verbal notebook. Verbs of movement: a sequence of learning difficulties. Indirect meanings of verbs of motion.
Teaching vocabulary	Work on vocabulary. Lexical minimum. Types of lexical exercises. Methods of semantization of new words.

	Difficulties in the use of words that are similar in meaning.
Teaching phonetics	<p>The subject and the meaning of phonetics, discrete and general phonetics, theoretical and practical phonetics. General principles of methodology of teaching pronunciation. Units of phonetics. Sounds and letters. Russian alphabet. Phonetic transcription. Work on pronunciation.</p> <p>Methods of producing and correction of Russian sounds.</p> <p>The sound system of the Russian language. Vowel sounds, articulation base reduction. Errors in pronunciation of vowels. Eliminating accent.</p> <p>The sound system of the Russian language. Consonants. Location and method of formation. Voiced / voiceless , hard / soft consonants. Methods of producing consonants. Errors in pronunciation of consonants, the elimination of an accent.</p> <p>The pronunciation of the word. Phonetic structure of words. Typical phonetic errors and methods to address them. Work on intonation. Characteristics of intonation structures (construction, use). Possible mistakes.</p>
Teaching types of speech activity	<p>Types of speech activity. Objectives and content of teaching speaking. speaking mechanisms. Teaching monologue and dialogue. Exercise for teaching speaking, examination. Types of speech activity. Teaching listening skills and mechanisms. The complexity of the exercises. Errors in teaching listening.</p> <p>Types of speech activity. Objectives and content of teaching reading. The requirements for academic text at an early stage. Work on the literary text.</p> <p>Types of speech activity. writing training: characteristics, mechanisms, exercises on writing techniques.</p>
Organization of examinations and independent work	Functions of examination. Examinations (tests on vocabulary and grammar, by listening tests, reading tests, writing tests, oral tests. peculiarities of independent work in the training trials.
Organization of the education process	Lesson as a structural unit of the learning process. Lesson plans: the lesson step by step, the goal of learning activities, methods and means of training.

**Developers:**

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**COURSE DESCRIPTION**

31.05.03 Dentistry

field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Microbiology, virology - Oral Microbiology
<b>Course Workload</b>	Credits and academic hours – 6/216
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
<b>General microbiology</b>	The subject and tasks of microbiology. Systematics and nomenclature of microorganisms. Morphology and chemical composition of microorganisms. Physiology and biochemistry of microorganisms. Genetics of microorganisms. Fundamentals of general and medical microbial ecology. Microbiological and molecular-biological bases of chemotherapy of infectious diseases.
<b>General virology</b>	The structure of viruses, the interaction of viruses with cells, the reproduction of viruses. Bacteriophages.
<b>The doctrine of infection</b>	An infectious disease. Stages of development and clinical manifestation of an infectious disease. The concept of sepsis, bacteremia, toxemia, septicopyemia. Microbial carrier The concept of pathogenicity and virulence of microbes. The main factors of pathogenicity. Units of virulence measurement.
<b>Private microbiology</b>	Medical bacteriology. Pathogenic and resident cocci: staphylococci, streptococci, neisseria. Pathogens of airborne infections: diphtheria, whooping cough and paraptussis, tuberculosis and leprosy. Pathogenic and resident anaerobic bacteria: pathogens of gas gangrene, tetanus and botulism. Pathogens of zoonotic infections: plague, tularemia, anthrax and brucellosis. Pathogens of intestinal infections: typhoid fever, dysentery, salmonellosis, colibacillosis, cholera and yersiniosis. Pathogens of spirochetosis. Pathogenic rickettsias. Pathogens of chlamydia. Morphology and physiology of fungi. Pathogens of surface and systemic mycoses. Mycoses caused by opportunistic fungi. Medical protozoology and virology.

<b>Microbiology of the oral cavity</b>	Resident microorganisms of the oral cavity. Microflora in odontogenic inflammation: pulpitis, periodontitis, abscess, phlegmon, osteomyelitis, sepsis. Opportunistic processes in the oral cavity. Candidiasis, recurrent aphthous stomatitis, glossitis, gingivitis. The role of the oral microflora in the pathogenesis of caries and in inflammatory processes in the periodontium. Age-related changes in the microbial flora of the oral cavity. The influence of prostheses, filling materials, medicines.
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**COURSE DESCRIPTION**

31.05.03 Dentistry

field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Modern Endodontics
<b>Course Workload</b>	Credits and academic hours – 2/72
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
Basic aspects of modern endodontics.	Endodontics or implantation: criteria for choosing a treatment methods. Key stages of endodontic treatment and modern standards for each of them. Methods of endodontic treatment: indications and contraindications.
Diagnostics in endodontics.	Basic diagnostic methods. Additional diagnostic methods. Differential diagnosis of endodontic pathology. The most common diagnostic errors
Preparing the patient for endodontic treatment.	Isolation of the working field. Creating an access cavity depending on the group membership and anatomical features of the teeth. Primary navigation, creation of a "carpet path" and the formation of a root canal.
Disinfection of the root canal system.	Microbiology of the root canal system. Irrigation solutions. Techniques for activating irrigation solutions. Preparations for disinfection of root canals between visits.
Obturation of root canals.	Sealers and pastes. Lateral condensation of cold gutta-percha. Monopin method. Modified lateral condensation, application of gutta-percha on a carrier, vertical compaction of heated gutta-percha
Systemic pharmacotherapy in endodontics.	Non-steroidal anti-inflammatory drugs, antibiotics, immunomodulating agents, complex antihomotoxic drugs.
Correction of errors and complications in endodontic practice.	Formation of the access cavity using burs and ultrasonic tips: indications for use, quality standards and feasibility. Elimination of steps in



	the root canal, tactics of work with complex anatomy of the root canal system. The use of MTA in the closure of perforations at various levels, apexification and apexogenesis, direct and indirect pulp capping, pulpotomy. Re-treatment of root canals filled with plastic and hardening materials. Tactics of work in the presence of a foreign body in the root canal.
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31.05.03 Dentistry

field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Neurology
<b>Course Workload</b>	Credits and academic hours – 3/108
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
The general concept of the nervous system. Central and peripheral nervous system. Movement and its disorders. Extrapyramidal system and the cerebellum.	Anatomy and physiology of the pyramidal, extrapyramidal system, cerebellum. Study of the volume of active movements of muscle strength and tone, physiological and pathological reflexes. Signs of central and peripheral paralysis. Extrapyramidal system lesion syndromes. Methods for studying the functions of the cerebellum and symptoms of damage.
Sensory system. Types of sensitivity. Pain sensation. Trigeminal system as part of the general sensitivity.	Pathways of superficial and deep sensitivity. Research technique for surface and deep sensitivity. Symptoms and types of sensory disorders.
The concept of the cranial nerves. Examination techniques. Clinical syndromes due to the cranial nerve lesions.	Anatomy and physiology 1,2,3,4,5,6,8,11 cranial nervs. Research technique and symptoms of lesion.
Trigeminal system, stomalgia and glossalgia. Clinics, diagnosis and treatments	Anatomy and physiology of the trigeminal nerve and autonomic ganglia of the head, research technique and symptoms of lesion. Anatomy and physiology 7,9,10,12 CN, research technique and symptoms of lesion. Bulbar and pseudobulbar paralysis. Alternating syndromes
The autonomic nervous system and its pathology. Basic manifestations in the autonomic nervous system disorders of face and head.	The autonomic nervous system. The main symptoms of damage to the ANS in the face and head. Innervation of salivation. Higher nervous activity. Study of speech, counting, memory, gnosis, praxis. Functional differences between the right and left hemispheres. Anatomy and physiology of the limbic system, symptoms of damage
Neuralgia of the trigeminal and glossopharyngeal	Neuralgia of the trigeminal and glossopharyngeal nerve Glossalgia and dental plexalgia. Etiology,

nerve. Postherpetic neuropathy of the trigeminal nerve. Glossalgia and dental plexalgia.	pathogenesis, clinical picture, diagnosis, differential diagnosis and treatment.
Myofascial pain dysfunctional syndrome of the face, Ganglionitis. Facial nerve neuropathy. Facial hyperkinesis	Myofascial pain dysfunctional syndrome of the face. Ganglionitis of the pterygopalatine, ciliary, submandibular, sublingual, nasal and ear-temporal, geniculate and upper cervical nodes. Facial nerve neuropathy. Facial hyperkinesis: hemifascial spasm, Meige's syndrome, blepharospasm, oromandibular dystonia.
Acute disorders of cerebral circulation. Closed craniocerebral trauma.	Stroke by ischemic and hemorrhagic type. Etiology, clinic, diagnostics. first aid measures at the prehospital stage, treatment, prevention. TBI, etiology, clinic, diagnosis, treatment.
Infectious diseases of the central and peripheral nervous system, meningitis, meningoencephalitis, polyneuropathy, neuro AIDS, neurosyphilis, multiple sclerosis.	Meningitis, meningoencephalitis, polyneuropathy, neuro-AIDS, neurosyphilis, multiple sclerosis. Etiology, clinical presentation, diagnosis and treatment
Syringomyelia, syringobulbia, brain tumors, epilepsy	Syringomyelia, syringobulbia, brain tumors, etiology, clinical picture, diagnosis and treatment. Epilepsy: etiology, clinical picture, types of seizures, diagnosis, first aid at the prehospital stage, treatment.

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**COURSE DESCRIPTION**

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**31.05.03 Dentistry**

field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Normal Physiology - Physiology of the Maxillofacial Region
<b>Course Workload</b>	Credits and academic hours – 5/180
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
Physiology of excitable tissues.	General physiology and cell physiology. Cell membranes, transport of substances through the cell membrane. Analysis and solution of problems related to the Theme of classes. Excitability and its parameters. Membrane potential. Action potential. Analysis and solution of problems related to the Theme of classes. Synapse physiology. Physiology of the nerve fiber, nerve. Analysis and solution of problems related to the Theme of classes. Physiology of muscle contraction. "Dynamometry. Research of maximum voluntary strength and strength endurance of muscles". "The effect of various types of rest on the effectiveness of restoring muscle performance". Analysis and solution of problems related to the Theme of classes.

<p>Physiology of the central nervous system. Physiology of higher nervous activity.</p>	<p>Nervous regulation of physiological functions. Reflex and its characteristics. Inhibition in the central nervous system. Basic properties of nerve centers. Private physiology of the central nervous system. "Research of human unconditioned reflexes". "Investigation of cerebellar control of skeletal muscle motor activity". Physiology of the autonomic nervous system. Sympathetic, parasympathetic, and metasympathetic nervous systems. The role of the autonomic nervous system in the development of adaptive responses. "Approximate assessment of human vegetative tone by questionnaire". "Assessment of vegetative tone by the Kerdo index". Physiology of higher nervous activity. A conditioned reflex. Dynamic stereotype. "Determination of psychological characteristics of a person using the EPI personality questionnaire (G. Eysenck's method)". Memory. Sleep. "Study of attention switching" "The dependence of memory size on the degree of meaningfulness of the material". "Electroencephalography". Analysis and solution of problems related to the theme of classes.</p>
<p>Physiology of sensory systems.</p>	<p>General physiology of analyzers. Skin analyzer. "Study of tactile sensitivity (esthesiometry)". Physiology of vision. "Determination of visual acuity", "Determination of the visual field (perimetry)". Physiology of hearing and vestibular apparatus. "Comparison of air and bone conduction (Rinne test)". Physiology of taste and smell. "Determination of taste sensitivity thresholds". "Determining the role of the sense of smell in the occurrence of taste sensations"</p>
<p>Blood physiology.</p>	<p>Function and composition of blood. Shaped blood elements. Blood types. Blood buffer systems. "Determination of blood type and Rh factor". A system for regulating the aggregate state of blood. "Determining the bleeding time". "Determining the folding time".</p>
<p>Physiology of digestion.</p>	<p>Functions of the digestive tract. Motor functions of the digestive tract. Secretory function and digestion in the oral cavity. "Digestion of starch by human saliva enzymes", "Determination of the active saliva reaction (pH) using universal indicator paper". Secretory function and digestion in the stomach, small and large intestines. The role of the liver in digestion. Absorption of nutrients in the gastrointestinal tract. "Investigation of the enzymatic properties of gastric juice". "The effect of bile on fats".</p>
<p>Excretion, kidney physiology.</p>	<p>The system of excretory organs. Formation of urine in the kidneys. Kidneys as an organ of homeostasis. "Study of some components of urine using diagnostic strips". Non-urinary functions of the kidneys. The role of the kidneys in the development of adaptive responses of the body. Bladder and urination. Methods of studying kidney function. Solving problems related to the Theme of the lesson. Analysis of the renin-angiotensin-aldosterone system scheme.</p>

Physiology of the cardiovascular system.	Physiology of the cardiovascular system. Heart cycle. Spread of arousal in the heart. Conducting system of the heart. Properties of the heart muscle. Nervous and humoral regulation of the heart. "Registration of an electrocardiogram. Interpretation of a normal electrocardiogram". Vascular physiology. Basic laws of hemodynamics. Microcirculation and lymph flow. Methods of blood circulation research. "Assessment of the parameters of the cardiovascular system at rest and during physical exertion".
Physiology of respiration.	Physiology of respiration. External breathing. Lung volumes and capacities. "Spirometry". Regulation of respiration. Transfer of gases by blood. "Conducting hypoxemic tests of Stange and Gencha".
Physiology of the endocrine glands.	Endocrine regulation of physiological functions. General properties of hormones, hierarchy in the activity of the endocrine glands Private physiology of the endocrine glands. Humoral regulation of physiological functions. Physiology of the endocrine glands. "Determination of the concentration of glucose in human blood", "Construction of a glycemic curve during the glucose tolerance test".
Metabolism and energy. Thermoregulation.	Human metabolism. Energy exchange. Determination of the metabolic rate. Basic exchange, daily energy consumption. Exchange of protein, fat, and carbohydrates. "Calculation of basal metabolic rate and daily energy consumption". Regulation of metabolism. Physiological basis of nutrition. Basic principles of compiling food rations. "Assessment of the state of human metabolism based on the analysis of body weight (calculations of body mass index and ideal body mass)". "Estimation of the distribution of human body fat by the waist/hip index". "Estimation of human body fat mass by caliperometry". "Compilation and evaluation of food rations". Thermoregulation and thermoreception. "Study of temperature sensitivity (thermoesthesiometry)".
Physiology of the maxillofacial region.	Composition and properties of saliva. Physiological significance of oral and gingival fluid. Structure and functions of maxillofacial organs. Sensory system of the maxillofacial region.
Coordination and integration of physiological functions.	Coordination and integration of the physiological functions.

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**COURSE DESCRIPTION**

31.05.03 Dentistry

field of studies / speciality code and title

2023-2024

<b>Course Title</b>	History of Medicine
<b>Course Workload</b>	Credits and academic hours - <b>2 credits (72 hours)</b>
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
Introduction. Early types of healing	1.1. Formation of prehistoric society and healing. 1.2. Healing during the flourishing of prehistoric society. 1.3. Healing during the decline of prehistoric society. 1.4. Folk medicine.
Healing and Medicine in Ancient civilizations	2.1. Common characteristics of Ancient civilizations. 2.2. Healing and Medicine in Ancient Mesopotamia (Sumer, Babylonia, Assyria). 2.3. Healing and Medicine in Ancient Egypt. 2.4. Healing and Medicine in Ancient India. 2.5. Healing and Medicine in Ancient China. 2.6. Healing and Medicine in Ancient Greece. 2.7. Healing and Medicine in Ancient Rome.
Medieval Medicine (V–XV centuries)	3.1. Medicine in the Byzantine Empire. 3.2. Medicine in the Caliphates (VII–X centuries). 3.3. Medicine in Middle and Central Asia (X–XV cc.). 3.4. Medicine in Medieval Rus (IX–XV centuries). 3.5. Medicine in Medieval Western Europe (V–XV centuries).
Medicine in Early Modern Time (XV – early XVII century)	4.1. Renaissance Medicine in Western Europe. 4.2. Medicine in the Americas before and after the conquest (Mayas, Aztecs, Incas). 4.3. Medicine in the Great Moscow Princedom, XV–XVII centuries.
Bio-Medical sciences in Modern Times (mid XVII–XIX century)	5.1. The greatest discoveries in Natural sciences. 5.2. Biology and Genetics.

	<p>5.3. Anatomy.  5.4. Histology. Embryology.  5.5. Pathology.  5.6. Microbiology.  5.7. Physiology and Experimental Medicine.</p>
<p>Clinical Medicine in Modern Time  (mid XVII–XIX century)</p>	<p>6.1. Internal Medicine. The first physical methods and instruments for clinical examination. Medical education.  6.2. The Russian medicine and education in XVIII–XIX centuries.  6.3. Infectious diseases and Epidemics.  6.4 Problems and progress of Surgery.  6.5. History of Nursing.  6.6. History of Dentistry.</p>
<p>Medicine and Public Health in the XX century</p>	<p>7.1. History of Nobel Prizes. The Nobel prizes in Physiology or Medicine.  7.2. Medicine and Public Health in Russia in XIX–XX centuries.</p>
<p>Medicine and Public Health in the XX century</p>	<p>8.1 International co-operation in Public Health and Medicine (International Red Cross; the World Health Organization; World Physicians against the Nuclear War)</p>

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**COURSE DESCRIPTION**

31.05.03 Dentistry

field of studies / speciality code and title

2023-2024

<b>Course Title</b>	History of Russia
<b>Course Workload</b>	Credits and academic hours – 8 / 72
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
<b>I. Theory and methodology of Historical Science</b>	1. History as science
<b>II. Ancient Rus in Medieval age</b>	2. Ancient Rus' 3. Feudal fragmentation and struggle for independence Formation of the Russian united state
<b>III. Russia on the brink of New Age and in the New Age</b>	5. Russia in the XVI century. Ivan the Terrible 6. Time of Troubles and the beginning of Romanov's reign 7. Peter I and his age 8. The age of Palace coups 9. The Russian Empire in the second half of the XVIII century 10. Russia in the first quarter of the XIX century. Paul I. Alexander I. Patriotic war of 1812 11. Decembrists movement. Reign of Nicholas I 12. Alexander II and the era of reforms 13. Russian Empire during the reign of Alexander III 14. Features of the development of capitalism in Russia (the last quarter of the XIX century.)
<b>IV. Russia and USSR in contemporary times</b>	15. Russian Empire in the beginning of XX cent. Nicholas II. 16. Revolutions in Russia

	<p>17. Domestic policy of Soviet Russia and the USSR in the prewar period</p> <p>18. The USSR during the great Patriotic war (1941-</p> <p>19. 1945) Postwar years. The beginning of Khrushchev's rule.</p> <p>20. Thaw as a special stage of development of the USSR.</p> <p>21. USSR under L. Brezhnev</p> <p>22. USSR in 1985-1991. Perestroika.</p> <p>23. Collapse USSR and the creation of CIS</p> <p>Formation of modern Russia. Vladimir Putin.</p> <p>25. The role of RUDN as a "soft power" in the international relations</p>
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**COURSE DESCRIPTION**

31.05.03 Dentistry

field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Human anatomy - Anatomy of head and neck
<b>Course Workload</b>	Credits and academic hours – 9/324
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
<b>Section 1.</b> Anatomy of body and organs	1. 1. Anatomy of body 1. 2. Splanchnology 1. 3. Cardiovascular and Lymphoid system Nervous system
<b>Section 2.</b> Head and neck anatomy	2. 1. Skeleton, articulations and muscles of head and neck 2. 2. Anatomy of the oral cavity and teeth 2. 3. Brain and cranial nerves Innervation of the organs of head and neck

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field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Hygiene
<b>Course Workload</b>	Credits and academic hours - 3 credits (108 academic hours)
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
Module 1. Nutrition hygiene.	Hygienic principles of rational nutrition. Calculation of fluoride content in the daily diet. Dietary, therapeutic-preventive, and preventive nutrition. Sanitary and hygienic expertise of foodstuffs (principles, conclusions). Nutritional and biological value, safety of products of animal origin (meat, fish, milk). Nutritional and biological value, safety of products of plant origin. Food preservation methods and sanitary and hygienic expertise of canned food and concentrates. Food poisoning and its prevention.
Module 2. Communal hygiene.	Hygiene assessment of the air environment - physical indicators (microclimate). Hygiene assessment of the air environment - chemical pollution. Hygiene assessment of natural lighting. Hygiene assessment of drinking water. Water fluoridation and defluoridation methods. Hygienic assessment of soil quality in populated areas. Hygiene assessment of ionizing radiation. Dosimetry and radiation protection.
Module 3. Hygiene of healthcare organizations.	Prevention of health care-associated infections.
Module 4. Occupational hygiene.	Fundamentals of occupational health and safety for workers. The physiological basis of the work process. Occupational health and hygiene

	assessment of working conditions of dentists. Occupational dental and oral diseases in patients. Occupational risk factors for dental and oral diseases.
Module 5. Hygiene in children and adolescents. Hygienic basics for a healthy lifestyle.	Hygienic assessment of the physical development of children and adolescents (complex method) at preventive health examinations. Participation of a dentist in the assessment of oral health (DMF index, hygiene indexes). Healthy image of life (level, pattern, style, quality), and personal hygiene issues. Dental and oral care as an element of a healthy lifestyle.

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**COURSE DESCRIPTION**

31.05.03 Dentistry

field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Health and Safety
<b>Course Workload</b>	Credits and academic hours - 3/108
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
<b>Section 1.</b> Theoretical basis	<b>Topic 1.1.</b> System "Human-environment"
	<b>Topic 1.2.</b> Risks
	<b>Topic 1.3.</b> Natural emergencies
	<b>Topic 1.4.</b> Man-made emergencies
	<b>Topic 1.5.</b> Life Safety Management
	<b>Topic 1.6.</b> Monitoring as a basis for managing human life safety
<b>Section 2.</b> Dangers in everyday life	<b>Topic 2.1.</b> Rules of conduct in natural emergencies
	<b>Topic 2.2.</b> Rules of conduct in case of man-made emergencies
	<b>Topic 2.3.</b> social emergencies
	<b>Topic 2.4.</b> Terrorism is a threat to society
	<b>Topic 2.5.</b> Harmful addictions and their social consequences
<b>Section 3.</b> Basic principles of legal support of BZ for medical workers.	<b>Topic 3.1.</b> Basic principles of legal support of BZ. The main legislative acts and standards to ensure the safety of the population.
	<b>Topic 3.2.</b> Legal bases of ecological safety.
	<b>Topic 3.3.</b> Protection of public health and safety.
	<b>Topic 3.4.</b> Responsibility for violation of regulatory legal acts on the life safety of the population.
	<b>Topic 3.5.</b> Fundamentals of mobilization preparation of the health care system; basics of the health care system in wartime (when mobilization is announced)

<b>Section 4.</b> Providing first aid to those injured in an emergency	<b>Topic 4.1.</b> Cardiopulmonary resuscitation, bleeding control, transport immobilization of the victims' limbs.
	<b>Topic 4.2.</b> The concept of desmurgy.
	<b>Topic 4.3.</b> Simulation of various emergency situations.
	<b>Topic 4.4.</b> Types of first aid kits. Filling the first aid kit.
	<b>Topic 4.5.</b> First aid for burns, frostbite, external bleeding, poisoning, injuries.

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**COURSE DESCRIPTION**

31.05.03 Dentistry

field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Histology, Embryology, Cytology Oral Histology
<b>Course Workload</b>	Credits and academic hours – 6/216
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
<b>Module 1</b> Introduction to the discipline. Research methods	<b>1.1.</b> Methods of histological, cytological and embryological studies
<b>Module 2</b> Cytology.	<b>2.1.</b> Cell structure <b>2.2.</b> Organelles and inclusions <b>2.3.</b> Nucleus: structure, functions. Cell cycle
<b>Module 3</b> Basic Histology.	<b>3.1.</b> The concept of tissues. Epithelia. Glands. <b>3.2.</b> The system of the internal environment tissues. Blood and lymph. Hematopoiesis. <b>3.3.</b> Connective tissues. Connective tissue proper. Connective tissues with special properties. <b>3.4.</b> Skeletal connective tissues. Cartilage. Bone tissues. <b>3.5.</b> Muscle tissues <b>3.6.</b> Nerve tissue
<b>Module 4</b> Histology of organs and organ systems	<b>4.1.</b> Nerve System <b>4.2.</b> Sensory system(Organs of special senses) <b>4.3.</b> Circulatory system <b>4.4.</b> System of organs of hematopoiesis and immune defense <b>4.5.</b> Endocrine system <b>4.6.</b> Digestive system <b>4.7.</b> Respiratory system <b>4.8.</b> Skin and its derivatives <b>4.9.</b> Urinary system <b>4.10.</b> Reproductive system



<b>Module 5</b> Oral Histology	<b>5.1.</b> Features of the structure of the anterior part of the digestive tube <b>5.2.</b> Tooth structure <b>5.3.</b> Tooth development (odontogenesis) <b>5.4.</b> Salivary glands
<b>Module 6</b> Embryology.	<b>6.1.</b> Common embryology <b>6.2.</b> The basis of human embryology

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**COURSE DESCRIPTION**

**31.05.03 Dentistry**

field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Aesthetic Restoration of Teeth
<b>Course Workload</b>	Credits and academic hours – 2/30
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
Variants of teeth shape	Modern tooth designation systems. Variability of tooth shapes.
Morphology of the crown part of the teeth	Methods of odontometry of teeth. Methods of odontology of teeth.
Clinical methods of examination of the patient when planning restorative therapy.	Cavity preparation, features of grinding and polishing.
Determining the shape and color of teeth	Group of incisors of the upper and lower jaws. Group of canines of the upper and lower jaws. Group of premolars of the upper and lower jaws. Group of molars of the upper and lower jaws.
Various ways to restore missing tooth tissue in aesthetic dentistry	Indirect and combined types of restoration. Indications and contraindications for the use of various methods of restoring hard tissues of teeth.
Different types of adhesive technologies	New generation adhesive systems. Different types of light-curing materials. Choice of restoration materials.
Stages and sequence of modeling teeth and various improvised materials on phantoms	Restoration of posterior teeth. Mistakes and their solutions. Stages of restoration: preparation, modeling, finishing. Restoration of the anterior teeth. Errors and their solutions. Stages of restoration: preparation, modeling, finishing.

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**COURSE DESCRIPTION**

**31.05.03 Dentistry**

field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Bases of translation
<b>Course Workload</b>	Credits and academic hours – 2 credits/72 academic hours
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
The written medical interpretation: the nature, functions, specifics	<p>Topic 1. Subject, tasks and methods of translation theory. Translation theory as a scientific discipline.</p> <p>Topic 2. The essence and specificity of medical translation. Place, role, functions of medical translation in professional communication of medical specialists.</p>
Actual problems of the theory of written medical translation and their role in the optimization of translation practice.	<p>Topic 3. The concept of translation activity, professional translation competence.</p> <p>Topic 4. Problems of quality of professional translation. Factors affecting the quality of translation activities.</p>
Moral and ethical foundations and requirements for the work of a professional translator	<p>Topic 5. The concepts of "ethics", "morality", "morality". The moral code of the translator. IMIA code of ethics.</p> <p>Topic 6. Ethics and etiquette, ethics and law in the field of written medical mediation.</p>
Typical situations of written meditative communication	<p>Topic 7. Types of written medical translation in the context of the purposes and conditions of written translation activities.</p> <p>Topic 8. "The author's factor" of the medical source text. "Destination factor".</p>
<p>Professionally oriented medical text / discourse and its genres as an object of translation</p> <p>Professionally oriented medical text / discourse and its genres as an object of translation</p>	<p>Topic 9. Mastering the genres of professionally oriented medical text / discourse in translation: scientific medical text; popular science text; instruction; advertising text; business letter.</p> <p>Topic 10. Mastering the genres of medical documentation in written professional translation.</p>

<p>External means (resources) of translation work. Information retrieval strategies and techniques</p>	<p>Topic 11. Classification of a translator's aids: dictionaries, encyclopedias, electronic sources, Internet resources, analogical texts. The General concept of the typology of dictionaries.</p> <p>Topic 12. The algorithm of the translator's actions, the use of different types of dictionaries to solve different translation problems. Bilingual dictionary; the inadmissibility of the use of obsolete vocabularies. Monolingual dictionary.</p>
<p>Electronic support of professional-oriented translation work</p>	<p>Topic 13. Technical means of translation. Using machine translation to work with professionally oriented medical text / discourse.</p> <p>Topic 14. Electronic dictionaries and reference books: types, strategies of work.</p>
<p>Cross-cultural aspects of medical translation</p>	<p>Topic 15. Translation as a process of mediated intercultural interlingual communication.</p> <p>Topic 16. The problem of translation. The Language picture of the world and translation.</p>
<p>Linguistic aspects of written medical translation. Lexical-semantic and grammatical transformations</p>	<p>Topic 17. Transfer of pragmatic meanings. Classification of types of pragmatic meanings (L.S. Barkhudarov). The role of pragmatic meanings in the translation process. Pragmatic aspect of translation.</p> <p>Topic 18. Transmission of intra-linguistic values. Grammatical meanings in translation. Difficulties related to the discrepancy between the grammatical systems of FL and PL. The transfer syntax values.</p> <p>Topic 19. Context and situation in translation..</p> <p>Topic 20. Translation transformations.</p>
<p>Stylistic aspects of medical translation. The editing of the translated text</p>	<p>Topic 21. Stylistic features of medical texts of different genres.</p> <p>Topic 22. Strategies and tactics of translation text editing, methods and means of prevention and correction of errors in written medical translation.</p>

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**COURSE DESCRIPTION**

31.05.03 Dentistry

field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Bioelements in Medicine
<b>Course Workload</b>	Credits and academic hours – 3 / 108
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
Introduction to Bioelements in Medicine	1. Biological classification of chemical elements. 2. Introducing in the bioelementology. 3. Biogeochemistry and factors affecting the elemental status of the population. 4. New paradigm of nutrition and pharmacology.
General Elementology	5. Factors affecting the homeostasis of microelements. Interaction between microelements 6. Elemental status of a person. 7. Personalized assessment of human elemental status.
Particular Elementology	8. Essential and relative essential trace elements (iron, zinc, copper, manganese, chromium, cobalt, molybdenum, selenium, iodine, silicon, vanadium): role in the organism; suction; excretion; deficiency and toxicity; associated diseases; sources. 9. Macroelements (sulfur, potassium, sodium, calcium, magnesium, phosphorus): role in the organism; suction; excretion; deficiency and toxicity; associated diseases; sources. 10. Toxic and potentially toxic trace elements (fluoride, nickel, arsenic, lithium, tin, strontium, aluminum, lead, cadmium, mercury): role in the organism; suction; excretion; toxicity; associated diseases; sources.
The role of chemical elements in Dentistry	11. Imbalances of chemical elements for various diseases of the oral cavity: caries, pulpitis, periodontitis, gingivitis, periodontitis.

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**COURSE DESCRIPTION**

31.05.03 Dentistry

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2023-2024

<b>Course Title</b>	Bioethics
<b>Course Workload</b>	Credits and academic hours – 2/72
<b>COURSE CONTENTS</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
<b>Unit 1.</b> Ethics is philosophy science	<b>Theme 1.1</b> Ethics is philosophy science
	<b>Theme 1.2</b> Professional Ethics
<b>Unit 2.</b> Bioethics: its status, range of problems. Main notions of Bioethics and Ethics.	<b>Theme 2.1</b> Bioethics: its status, range of problems
	<b>Theme 2.2</b> World Medical Association and its documents
<b>Unit 3.</b> Modern biomedical ethics.	<b>Theme 3.1</b> Modern biomedical ethics.
<b>Unit 4.</b> Abortion. Ethical problems of reproduction technologies.	<b>Theme 4.1</b> Abortion. Ethical problems of reproduction technologies.
<b>Unit 5.</b> Ethical problems of Gene Engineering	<b>Theme 5.1</b> Gene Engineering (Humans)
	<b>Theme 5.2</b> GMO plants and animals.
<b>Unit 6.</b> Death and Dying. End of Human Life.	<b>Theme 6.1</b> Death and Dying. Palliative medicine. End of Human Life.
<b>Unit 7.</b> Organ transplantation	<b>Theme 7.1</b> Organ transplantation
<b>Unit 8.</b> Moral problems of physical and mental integrity of patient	<b>Theme 8.1</b> Moral problems of physical and mental integrity of patient
<b>Unit 9.</b> Experiments involving Human being and animals: legislative and moral background	<b>Theme 9.1</b> Experiments involving Human being and animals: legislative and moral background

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**COURSE DESCRIPTION**

31.05.03 Dentistry

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2023-2024

<b>Course Title</b>	Biological Chemistry – Oral Biochemistry
<b>Course Workload</b>	Credits and academic hours – 6/216
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
<p><b>Section 1.</b> <b>Basic molecules - components of living systems</b></p>	<p><b>Topic 1.</b> Introduction to biochemistry. Proteins: structure, properties, functions Introductory conversation. Subject, tasks and main directions of biological chemistry. The main chemical components of living systems. The concept of the structure of proteins. Amino acids are monomers of protein molecules and peptides. Proteinogenic amino acids. Classification of amino acids, their physical and chemical properties. Biologically active peptides (for example, oxytocin, vasopressin, glutathione, aspartame). The structure of proteins, the concept of domains in their molecules. Monomeric and oligomeric proteins. The concept of protein folding, chaperones, ubiquitin and proteasomes. The relationship between the structure of proteins and their function. Physicochemical properties of proteins.</p> <p><b>Topic 2.</b> Complex proteins, nucleic acids, lipids Conjugated (complex) proteins: nucleoproteins, chromoproteins, phosphoproteins, glycoproteins, proteoglycans, lipoproteins, metalloproteins, complex enzyme proteins. Features of their chemical structure and biological role. Nucleoproteins: a role in the phenomena of heredity. The structure, biological functions of mononucleotides, the nature of their binding in nucleic acids. ATP is a phosphate donor during protein phosphorylation and the beginning of mineralization. Lipid chemistry, lipid formula. The main representatives of various classes of lipids, including bile acids, cholesterol, fat-soluble vitamins.</p> <p><b>Topic 3. Enzymes</b> Active center of enzymes, their adsorption and catalytic sites; allosteric center. Coenzymes - the concept of their functional role and chemical diversity. Features of enzymes as biocatalysts. Enzyme classification. Enzyme activity measurement, international units of activity. Dependence of enzyme activity on substrate concentration, temperature and pH; substrate specificity and specificity of the reaction direction. Regulation of enzymatic activity. Enzyme inhibitors: irreversible and reversible; competitive, non-competitive; the concept of retroinhibition. Reversible enzyme inhibition - the mechanism of many drugs action.</p> <p><b>Topic 4. Vitamins</b> Vitamins - essential factors of human nutrition. Distribution of vitamins in nature. Classification of vitamins, characteristics of individual vitamins - thiamine, riboflavin, niacin, pantothenic acid, pyridoxine, biotin, folic acid, cobalamin, ascorbic acid,</p>

	<p>vitamins A, D, E, K. Causes and patterns of hypo- and hypervitaminosis in the body. Antivitamins - concept. Coenzymes are derivatives of vitamins.</p> <p><b>Topic 5. Hormones</b> Hormones are the coordinators of biochemical processes. Subordination of endocrine organs. Classification of hormones by chemical structure and place of synthesis. The main mechanisms of hormone action. The concept of hormones role in metabolism regulation.</p>
<p><b>Section 2.</b> <b>Metabolism and energy</b></p>	<p><b>Topic 1. Introduction to metabolism. Biological oxidation</b> Stages of metabolism in the body. The central role of acetyl-CoA in metabolic processes. Concept of compounds with high group transfer potential. The tricarboxylic acid (TCA) cycle as the final stage in the catabolism of acetyl fragments formed during the breakdown of carbohydrates, lipids and amino acids; its connection with biological oxidation. Biological oxidation (tissue respiration) as a set of redox processes involving oxygen. Mitochondrial oxidation (the respiratory electron transport chain) is the main way of oxygen utilization in the body. Respiratory chain components. Nicotinamide and flavin dehydrogenases as the initial links of the respiratory chain. Oxidative phosphorylation of ADP. The concept of substrate phosphorylation of ADP.</p> <p><b>Topic 2. Metabolism of carbohydrates</b> The biological role of carbohydrates. Classification of carbohydrates. The role of carbohydrates in metabolism, energy storage. The central role of glucose in carbohydrate metabolism. Possible pathways for the conversion of glucose-6-phosphate. Anaerobic conversion of glucose (glycolysis). Regulation and energy output of glycolysis. Synthesis (glycogenesis) and breakdown (glycogenolysis) of glycogen. Energy yield of glycogenolysis. Hormonal regulation of glycogen synthesis and breakdown. Features of carbohydrate metabolism in muscles and liver. The concept of gluconeogenesis and the starting for glucose synthesis. Stages of gluconeogenesis and its regulation. Cory cycle. Aerobic carbohydrate metabolism. Oxidative decarboxylation of pyruvate. Energy yield of aerobic breakdown of glucose. Oxidative stages and biological significance of the pentose phosphate pathway of glucose oxidation in different tissues. The consequences of thiamine deficiency in the body. Features of carbohydrate metabolism in erythrocytes. Glucose-6-phosphate dehydrogenase, NADPH, glutathione, and drug-induced hemolytic anemia. Disorders of carbohydrate metabolism (hypo- and hyperglycemia, their causes; type 1 and 2 diabetes, lactase deficiency, Von Gierke's disease). Diagnostic value of glucose tolerance test (sugar load) and determination of glycosylated hemoglobin in blood.</p> <p><b>Topic 3. Lipid metabolism</b> Triacylglycerols (TAG) breakdown in adipocytes, hormone-sensitive lipase. Conversion of glycerol. Synthesis of TAG, sources of glycerol in various tissues. Beta-oxidation of fatty acids in mitochondria, the role of carnitine. Fatty acid biosynthesis (sources of acetyl-CoA and NADPH (H<sup>+</sup>) in various tissues. Acetone bodies (biological role). The central role of acetyl-CoA in lipid metabolism. Ways of cholesterol transformation in the body, regulation of its synthesis. The relationship between the metabolism of fats and carbohydrates. Regulation of lipid metabolism.</p> <p><b>Topic 4. Metabolism of amino acids and proteins. Complex protein metabolism</b> Amino acid catabolism: transamination of amino acids, deamination of amino acids, decarboxylation of amino acids, biogenic amines, their physiological and pharmacological action, hydroxylation of amino acids, the mechanism of this process (the role of ascorbate, tetrahydrobiopterin). Glucose-alanine cycle. Conversion of a nitrogen-free amino acid residue. Glycogenic and ketogenic amino acids. Specific pathways for the exchange of individual amino acids: glycine, serine and methionine as</p>



	<p>donors of one-carbon fragments. Phenylalanine, tyrosine and tryptophan as starting molecules for the synthesis of catecholamines, serotonin and melatonin. Pathology of protein and amino acid metabolism: hyperammonemia, type I and II, phenylketonuria, alkaptonuria, albinism, Hartnup's disease, maple syrup disease.</p> <p>Initial molecules for the synthesis of nucleotides in the body. Rescue paths for nitrogenous bases. Decomposition products of pyrimidine and purine nucleotides. The role of xanthine oxidase. Uric acid as a final product of the purine nucleotides breakdown. Violation of the purine nucleotides exchange (gout, Lesch-Nyan syndrome).</p>
<p><b>Section 3.</b> <b>Biochemistry of body fluids</b></p>	<p><b>Topic 1. Biochemistry of blood and urine</b></p> <p>Buffer systems of blood and saliva. Factors that determine pH constancy. Dissociation constants, Henderson-Hasselbach equation. Indicators of the state of the buffer systems of the blood. Violations of acid-base balance: alkalosis and acidosis, metabolic and respiratory. Hyperammonemia and mechanisms of ammonia neutralization. Neutralization of ammonia in cells: sources of ammonia, mechanism of its toxic action, binding (neutralization) of ammonia: ornithine (urea) cycle, formation of glutamine (in the brain) and asparagine, reductive amination of <math>\alpha</math>-ketoglutarate, synthesis of creatine, formation and excretion of ammonium salts through the kidneys.</p> <p>Blood composition. Protein composition of blood, fractions of blood proteins, dysproteinemia, paraproteinemia. The main proteins of blood plasma: albumin, globulins. Functions of the main proteins of blood serum. Methods for quantitative analysis of protein fractions of blood. Hemoglobin: structure, normal variants and pathological forms of hemoglobin (HbA, HbA<sub>2</sub>, HbF, HbA<sub>1C</sub>, MetHb, HbCO, HbS), the concept of thalassemia. Regulation of the hemoglobin binding with oxygen. Bohr effect. Features of iron absorption and transport in the body. Initial and final stages of heme synthesis. Regulation of heme synthesis. Heme breakdown. Indirect and direct bilirubin. The concept of porphyria and jaundice.</p> <p>Coagulation system of the blood. Blood coagulation cascade. Fibrinous thrombus formation. Anticoagulant blood system. Fibrinolysis. Blood clotting disorders (coagulopathy).</p> <p>Urine composition. Relative density, acidity, inorganic components of urine.</p> <p>Introduction to laboratory diagnostics. Basic biochemical parameters in blood plasma and urine in diabetes mellitus, myocardial infarction, crush syndrome, hemolysis, liver dysfunction (cytolysis syndrome, hepatocellular failure syndrome), biliary obstruction, renal failure, pancreatitis. Bile pigments (total and direct bilirubin), hepatocyte enzymes (alanine and aspartate aminotransferases, alkaline phosphatase, <math>\gamma</math>-glutamyl transferase), indicators of protein-synthetic liver function (total protein, albumin, <math>\alpha</math>1-antitrypsin, prothrombin, prothrombin index (PTI) and international normalized ratio (INR)). Isozymes, their role in enzyme diagnostics. The concept of immobilized enzymes. Indicators of biochemical analysis of urine and their diagnostic value: urea, creatinine, uric acid, urobilinogen, oxalate. Pathological conditions accompanied by proteinuria, glucosuria, ketonuria. Enzymes detected in urine: pancreatic amylase and its diagnostic value.</p> <p><b>Topic 2. Biochemistry of oral fluids</b></p> <p>Mixed saliva composition. Saliva secretion. Regulation of secretion and production of saliva. Inorganic and organic components of mixed saliva. Micellar structure of saliva. Gingival fluid.</p> <p>Saliva proteins: mucins; proteins rich in proline; histatins, lactoferrin, group-specific glycoproteins. Immunoglobulins: structure and function, types of immunoglobulins.</p> <p>Saliva enzymes: digestive enzymes, antioxidant enzymes, acid and alkaline phosphatases, carbonic anhydrase.</p> <p>Oxidative stress: reactive oxygen species, redox balance, respiratory burst, damage to proteins, lipids, nucleic acids by reactive oxygen species. The antioxidant system of the human body: a brief description of the enzymatic (catalase, peroxidase,</p>

superoxide dismutase) and non-enzymatic links of the antioxidant defense.

Superdental formations: cuticle, pellicle, plaque, tartar. Features of the biochemical composition.

Enzymes of microorganisms: bacterial urease, nitrate reductase and nitrite reductase. The role of bacterial metabolism in the development of oral diseases. Enzyme systems of bacteria. Decay of proteins, change in acid-base balance, digestive disorders in the oral cavity due to overgrowth of bacteria.

**Topic 3. Biochemistry of inflammation**

Inflammatory mediators. Eicosanoids. Interleukins. Acute phase proteins. Changes in the biochemical blood test during inflammation, markers of inflammatory processes. Influence of inflammation on the process of bone mineralization.

The diagnostic value of the biochemical analysis of saliva. Changes in the analysis of saliva with periodontitis and caries. Changes in the composition of saliva in acute pancreatitis, renal failure, diabetes mellitus, hypothyroidism and Itsenko-Cushing's syndrome.

**Topic 4. Biochemistry of digestion**

Salivary enzymes: amylase, lysozyme, maltase, lingual lipase, DNase and RNase.

The biological value of proteins. The completeness of protein nutrition. Protein norms in the diet. The rate of renewal of individual body proteins. Digestion of proteins. Digestive enzymes of the stomach and pancreas. Mechanisms of their activation. The role of hydrochloric acid. Conversion of amino acids in the intestine under the action of microflora enzymes.

Digestion of fats. Lingual and pancreatic lipase. Activation mechanism. Bile. The composition of the hepatic bile. Bile functions. Bile acids: primary and secondary, conjugated bile acids. Enterohepatic circulation of bile acids. The role of bile acids in the digestion of fats. Features of absorption and transport of lipids; the role of bile acids and lipoproteins. Resynthesis of triacylglycerols (TAG) and other dietary lipids in enterocytes.

Digestion of carbohydrates. Amylase lingual and pancreatic. Oligo-alpha-1,6-glycosidase. Enzymes of cavity and parietal digestion: sucrose-isomaltase complex, glycoamylase complex, lactase.

<p><b>Section 4.</b> <b>Biochemistry of connective tissue</b></p>	<p><b>Topic 1.</b> Biochemistry of the main proteins of connective tissue Collagens. Types of collagens, amino acid composition of type I collagen, levels of structural organization of type I collagen, collagen maturation process. Post-translational modification: hydroxylation of proline and lysine amino acid residues, glycosylation. Intermolecular cross-linking of collagen: the formation of allysin, lysine-norleucine. Desmозine and pyridinoline. Collagen breakdown process, matrix proteinases, biochemical markers of collagen breakdown: hydroxyproline, C- and N-telopeptides, their clinical significance. Regulation of collagen synthesis and breakdown. Diseases associated with collagen defects: Vrolik syndrome, Ehlers-Danlos syndrome, Alport syndrome, type II achondrogenesis. Collagen maturation disorders in vitamin C deficiency, diabetes mellitus, Menkes disease and systemic scleroderma. Elastin. Structure and function. Changes in the structure of elastin in emphysema, Menkes disease, periodontitis and gingivitis. Fibronectin, laminins, fibrillin (functions and their defining features of the protein structure).</p> <p><b>Topic 2.</b> Biochemistry of the main non-protein components of the connective Proteoglycans. The structure and function of glycosaminoglycans: hyaluronic acid, heparin, sulfated glycosaminoglycans. The structure of the disaccharide units of glycosaminoglycans. Stages of proteoglycan synthesis, the role of sulfation in the formation of functionally complete glycosaminoglycans. Small and large proteoglycans. Breakdown of glycosaminoglycans: sulfatase and glycosidase. Mucopolysaccharidoses: congenital enzyme deficiencies in mucopolysaccharidoses I (Hurler / Scheie), II (Hunter) type, clinical signs, principles of diagnosis and treatment. Enzyme replacement therapy.</p> <p><b>Topic 3.</b> Biochemistry of mineralized tissues Organic components of mineralized tissues. Bone matrix proteins. Adhesive proteins: fibronectins, laminins, nidogens, osteopontin, bone sialoprotein, osteonectin. Biological functions. Calcium-binding proteins: osteocalcin, Gla-proteins, phosphorins. Gamma-carboxylation of glutamic acid residues, mechanism of binding of calcium ions by bone tissue proteins. Bone enzymes that regulate phosphate metabolism: alkaline phosphatase, acid phosphatase, pyrophosphatase. Mineral components of bone tissue. Hormonal regulation of calcium metabolism. The structure of hydroxyapatites, molar calcium-phosphate coefficient. Isomorphic substitutions of ions in the structure of hydroxyapatites. Fluorosis, Kashin-Beck syndrome, hydroxyapatite arthropathy. Bone tissue remodeling, stages. The process of mineralization of the protein matrix and its regulation. Calcification. Disorders of bone tissue remodeling: osteopetrosis, Paget's disease, osteoporosis, ostomalacia and rickets, hyperostosis, osteogenesis imperfecta. Biochemical markers of formation (C- and N-terminal propeptides, osteocalcin, bone alkaline phosphatase) and bone resorption (collagen breakdown products, osteoclast enzymes and markers of osteocyte activity), their clinical significance. Composite materials, implants and their changes in the oral cavity over time.</p>
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**COURSE DESCRIPTION**

31.05.03 Dentistry

field of studies / speciality code and title

2023-2023

<b>The discipline</b>	<i>Biology</i>
<b>Course Workload</b>	Credits and academic hours – 5 (180)
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
1. Biology is the science of life. The cell as a structural and functional unit of living things	Methods which are used in modern biology. Structure of prokaryotic and eukaryotic cells. The cell theory. The flow of information and energy in the cell.
2. The genetic material	Structure and functions of nucleic acids. DNA replication. Mutations.
3. Gene expression. Organization of genomes	Transcription and translation. Control of gene expression in prokaryotic and eukaryotic cells. Organization of prokaryotic, eukaryotic and viral genomes.
4. The cytological basis for the growth and reproduction	Chromosomes, karyotypes. Gene, genotype, phenotype. Allelic and non-allelic, linked and non-linked, pleiotropic and lethal genes. Penetrance and expressivity. Types of gene interaction. The life cycle of cells, the mitotic and meiotic cell divisions. Control of the cell cycle.
5. The laws of heredity	The history of Genetics. The laws of heredity.
6. Human Genetics	Methods of human genetics. Hereditary diseases and their causes. Principles of diagnosis, treatment and prevention of hereditary diseases. Genetic counseling.
7. Medical Parasitology	The diversity of the organic world. Parasitism as an ecological phenomenon. Human parasites, vectors, hosts and reservoirs of pathogens.
8. Biological evolution	Biological evolution. Theories of evolution.
9. The Humans and the Biosphere	Ecosystems. Medical aspects of the environmental control.

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**COURSE DESCRIPTION**

31.05.03 Dentistry

field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Chemistry of biogenic elements
<b>Course Workload</b>	Credits and academic hours – 2/72
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
Forms of finding metal cations in living systems. Coordination compounds.	General concepts of the chemistry of biogenic elements. The role of inorganic elements (metal cations) in life processes. Complex compounds. Composition, electronic structure, nomenclature. Chemical reactions involving complex compounds. Examples of vital complex compounds: hemoglobin, chlorophyll, metalloenzymes.
Ways to maintain pH in living systems. Buffer solutions.	The concept of pH. Changes in pH in neutral, acidic and alkaline solutions. buffer solutions. Mechanism of action and pH of buffer solutions of various compositions. buffer capacity. Buffer solutions in living systems.
Forms of transportation and storage of metal cations in living systems. Colloidal solutions	Soluble and insoluble forms, including biometals. Stabilization of soluble forms due to micellization. The concept of colloidal solutions. Composition and structure of micelles. Methods for obtaining and physical-chemical characteristics of colloidal solutions.
Redox reactions	The concepts of oxidation and reduction. Typical oxidizing and reducing agents. Changing the oxidation states of typical oxidizing and reducing agents. Method of ion-electronic balance of redox reactions.

	Redox reactions in living systems.
The methods of qualitative and quantitative analysis in bioinorganic chemistry	The concept of qualitative analysis. Group and specific reactions of cations and anions. Quantitative titrimetric analysis and its application in bioinorganic chemistry

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**COURSE DESCRIPTION**

31.05.03 Dentistry

field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Chemistry
<b>Course Workload</b>	Credit and academic hours - 3/108
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
Classes of inorganic compounds	Main classes of inorganic compounds. Double oxides. Ceramic materials.
Basic concepts of thermodynamics. First and second laws of thermodynamics.	Subject and methods of chemical thermodynamics. The relationship between the processes of metabolism and energy in the body. Chemical bioenergetics. Basic concepts of thermodynamics. Intensive and extensive parameters. State function. Internal energy. Work and heat are two forms of energy transfer. Types of thermodynamic systems (isolated, open, closed). Types of thermodynamic processes (isothermal, isobaric). Standard state. First law of thermodynamics. Enthalpy. Standard enthalpies of formation and combustion of a substance. Standard enthalpy of reactions. Hess' law. Application of the first law of thermodynamic to biosystems. The second law of thermodynamics. Reversible and irreversible processes. Entropy. Gibbs energy. Forecasting the direction of spontaneous processes in isolated and closed systems; the role of enthalpy and entropy factors. Thermodynamic equilibrium conditions. Standard Gibbs energies of formation and biological oxidation of matter. Standard Gibbs energy of the reaction. Examples of exergonic and endergonic processes occurring in the body. The principle of energy conjugation.
Basic concepts of chemical kinetics. Classification of reactions in kinetics.	Chemical balance. Reversible and irreversible reactions. Thermodynamic equilibrium conditions in isolated and closed systems.

	<p>Chemical equilibrium constant. The equation of the isotherm and isobar of a chemical reaction. Subject and basic concepts of chemical kinetics. Chemical kinetics as a basis for studying the rates and mechanisms of biochemical processes. Average speed and true speed. Classification of reactions in kinetics: homogeneous, heterogeneous, simple and complex reactions. Molecularity of the elementary act of the reaction. Kinetic equations. Reaction order. half-life. Dependence of reaction rate on concentration. Kinetic equations of zero, first, second order reactions. Experimental methods for determining the rate and rate constant of reactions. The dependence of the reaction rate on temperature. The temperature coefficient of the reaction rate and its features for biochemical processes. The concept of the theory of active collisions. Activation energy. Arrhenius equation; the role of the steric factor. The concept of the theory of the transition state. Catalysis. Homogeneous and heterogeneous catalysis. Energy profile of the catalytic reaction. Features of the catalytic activity of enzymes. Michaelis-Menten equation and its analysis.</p>
<p>Concentrations and colligative properties of solutions.</p>	<p>Classification of solutions. Methods for expressing the concentrations of solutions. Volumetric analysis. Titration. Raoult's law, cryoscopy, ebullioscopy, Van't Hoff's law, isotonic, hyper-, hypotonic solutions.</p>
<p>Ionic equilibrium in electrolyte solutions.</p>	<p>Proton theory of Lewis acids and bases. Acidity, basicity constants, the relationship between the acidity and basicity constant in a conjugated protolytic pair, the general constant of the combined protolytic equilibrium. Protolytic processes occurring in the oral cavity, their effect on hard dental tissues. Ionic product of water, pH of solutions; hydrolysis of salts, degree and constant of hydrolysis. Hydrolysis of food products in the oral cavity and its effect on hard dental tissues. buffer solutions. hydrolysis of starch. Ampholytes. Acidity of gastric juice. The role of pH in body fluids. Solubility constant. General constant of combined heterogeneous equilibrium. Conditions for the formation and dissolution of precipitates. The phenomenon of isomorphism.</p>
<p>Reactions of complexing</p>	<p>Werner's coordination theory. The nature of the chemical bond in complex compounds. Classification of complex compounds.</p>



	<p>Nomenclature of complex compounds. Polydentate ligands. Chelation. The structure of hemoglobin, chlorophyll. Stability of complex compounds in solutions. Complex instability constant. Toxic effect of salts of heavy metals. Antidotes.</p>
Disperse systems	<p>Classification of dispersed systems. Classification of dispersed systems according to the degree of dispersion; according to the state of aggregation; according to the strength of intermolecular interaction between the dispersed phase and the dispersion medium. The nature of the colloidal state. Obtaining and properties of dispersed systems. Obtaining suspensions, emulsions, colloidal solutions. Dialysis, electro dialysis, ultrafiltration. Molecular-kinetic properties of colloidal dispersed systems: Brownian motion, diffusion, osmotic pressure, sedimentation equilibrium. Optical properties: light scattering (Rayleigh's Law). Electrokinetic properties: electrophoresis and electroosmosis; flow potential and sedimentation potential. The structure of the electrical double layer. Electrokinetic potential and its dependence on various factors. Stability of dispersed systems. Sedimentation, aggregation and condensation stability of lyosols. Factors affecting the stability of lyosols. Coagulation. Coagulation threshold and its definition, Schulze-Hardy rule, habituation phenomenon. mutual coagulation. The concept of modern theories of coagulation. Colloidal protection and peptization. Colloidal surfactants; biologically important colloidal surfactants (soaps, detergents, bile acids). Micellization in surfactant solutions. Determination of the critical micelle concentration. Liposomes.</p>
Electrochemical processes and redox reactions.	<p>The theory of redox processes. The concept of redox systems. Standard redox potentials. The occurrence of EMF in the oral cavity during metal prosthetics. The appearance of a double electric layer at the metal-electrolyte interface. Electrode potential, methods of its measurement. Electrochemical series of voltages of metals. The principle of operation of galvanic cells. Dental materials. Their classification, brief description, application in dentistry. Basic (structural) dental materials: metals and alloys, polymers, ceramics. Corrosion of metals, its types. Electrochemical corrosion: conditions of occurrence; factors contributing to its flow in</p>

	the oral cavity during metal prosthetics.
Classification of organic reactions. Conjugated and aromatic compounds.	Classification of organic reactions according to the number of initial and final substances, according to the nature of the reagents. Conjugated connections: types of conjugation, examples of open and closed conjugated systems. Aromaticity of compounds.
Mutual influence of functional groups in molecules of biologically active polyheterofunctional and high molecular weight organic compounds.	Mutual influence of atoms in a molecule. Electronic effects: inductive and mesomeric. Electrodonor and electroacceptor substituents, their influence on the reactivity of compounds.
Biologically active macromolecular substances (structure, properties, participation in the functioning of living systems).	Polymers. The concept of medical polymers. Properties of IUD solutions. Features of the dissolution of IUDs as a consequence of their structure. The shape of macromolecules. The mechanism of swelling and dissolution of the IUD. Dependence of the swelling value on various factors. Anomalous viscosity of HMS solutions. Staudinger equation. Viscosity of blood and other biological fluids. Osmotic pressure of biopolymer solutions. Polyelectrolytes. Isoelectric point and methods for its determination. Donnan membrane equilibrium. Oncotic pressure of plasma and blood serum. Stability of biopolymer solutions. Salting out biopolymers from solution. Coacervation and its role in biological factors. Gelation of IUD solutions. Jelly properties: syneresis and thixotropy.

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**COURSE DESCRIPTION**

31.05.03 Dentistry

field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Clinical Dentistry
<b>Course Workload</b>	Credits and academic hours - 4 (144)
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
Introduction to Clinical Dentistry.	Aims and objectives of the discipline "Clinical Dentistry". The role and place of a dentist in clinical medicine .. oral manifestations in some common diseases (demonstration analysis and rare cases of clinical experience chair requiring general clinical training dentists). Algorithm Diagnostics and interdisciplinary interaction. Principles, especially the treatment. (Symptomatic and pathogenetic therapy)
Mistakes and complications in practice dentist general practice.	Mistakes and complications in practice dentist general practice.
Physiological and pathophysiological basis of the microcirculation in the mouth.	Determination of the microcirculation. Types of microcirculatory disorders. Communication microcirculatory problems with oral mucosa and dental somatic pathology.
The manifestations of general diseases of the mouth.	Manifestations in the mouth of diabetes, hypertension, blood diseases and HIV infection.
Providing dental care to patients with cardiac disease.	Features a survey of cardiac patients. Clinical experience with the department. Long-term results of clinical observations.
Overview of modern means and methods of beam diagnostics of the head and neck.	The main objectives and principles of X-ray diagnostics in the mouth. Types ray studies (CT, MRI, PET, CT, Bone scan)
The role of the dentist in solving interdisciplinary problems.	Parsing complex clinical cases using tools and methods for telemedicine. Demonstration clinical department material. Consultation on the preparation and protection of the course work.
Clinical simulation ambulatory situations requiring dental-surgery.	Clinical modeling application of composite materials for eliminating the defects of hard tissues of teeth of different origin. Clinical modeling restoring teeth with crowns, veneers and tabs. Demonstration of dental photographs on clinical

	examples from the professional experience of general practice dentist.
Clinical aspects of calcium metabolism in an organism. The role of calcium in the prevention of dental diseases.	Clinical aspects of calcium metabolism in an organism. The role of calcium in the prevention of dental diseases.
Clinical aspects of immunity in the oral cavity. Protective barrier function of the oral mucosa.	Clinical aspects of immunity in the oral cavity. Protective barrier function of the oral mucosa.

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**COURSE DESCRIPTION**

31.05.03 Dentistry

field of studies / speciality code and title

2023-2024

<b>Course title</b>	Clinical pharmacology
<b>Course Workload</b>	Credits and academic hours – 2/72
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
General issues of clinical pharmacology.	<ol style="list-style-type: none"> <li>1.1. Subjects and tasks of clinical pharmacology. Clinical research. Principles of evidence-based medicine.</li> <li>1.2. Fundamentals of clinical pharmacokinetics.</li> <li>1.3. Fundamentals of clinical pharmacodynamics.</li> <li>1.4. Drug interactions.</li> <li>1.5. Drug safety. Adverse drug reactions.</li> </ol>
Clinical and pharmacological approaches to rational pharmacotherapy in routine dentistry practice and in emergency situations.	<ol style="list-style-type: none"> <li>2.1. Clinical pharmacological approaches to choosing and prescribing antibacterial drugs in dentistry practice.</li> <li>2.2. Clinical pharmacological approaches to choosing and prescribing antifungal and antiviral drugs in dentistry practice.</li> <li>2.3. Clinical pharmacological approaches to choosing and prescribing antiseptic drugs and irrigants in dentistry practice.</li> <li>2.4. Clinical pharmacological approaches to choosing and prescribing analgesic drugs in dentistry practice.</li> <li>2.5. Clinical pharmacological approaches to choosing and prescribing anti-inflammatory, anti-allergic drugs and immunomodulators in dentistry practice.</li> <li>2.6. Clinical pharmacological approaches to choosing and prescribing drugs in hemostasis disorders (bleedings and thrombosis).</li> <li>2.7. Clinical pharmacology of drugs to treat phosphoric</li> </ol>

	calcium metabolism disorders. 2.8. Clinical pharmacological approaches to choosing and prescribing drugs in urgent and life-threatening conditions in dentistry practice.
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**COURSE DESCRIPTION**

31.05.03 Dentistry

field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Dental Modeling of Teeth
<b>Course Workload</b>	Credits and academic hours – 2/72
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
Module 1 Dental modeling	Topic 1.1. Dental anatomy. <i>Types of Teeth and Their Functions. Occlusion. Dental arches shapes and forms.</i> Types of teeth alignment. Dental articulation, its effect on teeth alignment, and the anatomical shape of teeth. Functional occlusal plane (Spee, Wilson)
	Topic 1.2. Types of dental restorations in which knowledge of the dental anatomy and teeth alignment, is needed
	Topic 1.3. Guides and features of carving the maxillary central incisor. Carving in modeling clay.
	Topic 1. 4. Guides and features of carving the maxillary lateral incisor. Carving in modeling clay.
	Topic 1.5. Guides and features of carving the mandibular central incisor. Carving in modeling clay
	Topic 1.6. Guides and features of carving the mandibular lateral incisor. Carving in modeling clay.
	Topic 1.7. Guides and features of carving the maxillary canines. Carving in modeling clay
	Topic 1.8. Guides and features of carving the mandibular canines. Carving in modeling clay.
	Topic 1.9. Guides and features of carving the maxillary first premolar. Carving in modeling clay

	Topic 1.10. Guides and features of carving the maxillary second premolar. Carving in modeling clay
	Topic 1.11. Guides and features of carving the mandibular first premolar. Carving in modeling clay.
	Topic 1.12. Guides and features of carving the mandibular second premolar. Carving in modeling clay.
	Topic 1.13.. Guides and features of carving the maxillary first molar. Carving in modeling clay.
	Topic 1.14. Guides and features of carving the maxillary second molar. Carving in modeling clay
	Topic 1.15. Guides and features of carving the mandibular first molar. Carving in modeling clay.
	Topic 1.16. Guides and features of carving the mandibular second molar. Carving in modeling clay.
	Topic 1.17. Final colloquium.
	<i>Total: 17 lessons (1 course -1 semester).</i>

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**COURSE DESCRIPTION**

31.05.03 Dentistry

field of studies / speciality code and title

2023-2024

<b>Course title</b>	Dental oncology and radiotherapy
<b>Course workload</b>	Credits and academic hours - 2/72
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
1. X-ray methods of diagnostics	Physical basis for getting a diagnostic image in X-ray examination, methods of X-ray examination (radiography, fluorography, electro-radiography, fluoroscopy, TV fluoroscopy, digital radiography)
2. Ultrasonography	Physical properties of ultrasound, source and receiver of ultrasound, principles of modern ultrasonographic equipment, major methods of ultrasonography
3. X-ray computed tomography (CT) and magnetic resonance imaging (MRI)	CT and principles of getting images in CT. Distinctions from conventional tomography, areas of use, indications and contraindications. MRI and principles of getting images in MRI. Indications and contraindications.
4. Basis of radionuclide methods	Principles of radionuclide diagnostics, typical radionuclide diagnostic system, classification of radionuclide examinations, principles of radiopharmaceuticals choice depending on radionuclear and pharmacological properties, classification of radiopharmaceuticals depending on the effective excretion half-life
5. X-ray methods for facial-jaw area	All methods of internal and external radiography of teeth, classification including general-view radiography, intra-mouth, external radiographs, radiography in oblique contact and tangential projections, indications for each of those methods.
6. Development and anatomy of teeth and jaws in radiography	Three periods of teeth development, X-ray variants and characteristics of each period (degree of mineralization, stages of radices' formation). Reasons of dentition retardation and their detection.
7. Diagnostics of in-born and acquired deformities of facial-jaws region.	Various anomalies of teeth position and development: change of their number, size, shape and structure. X-ray picture and clinical signs in each kind of teeth anomaly, diagnostic value of X-ray methods.
8. X-ray diagnostics of caries, pulpitis, periodontitis, paradentium diseases.	X-ray features of caries depth depending on size and localization. Differential diagnostics of caries in X-ray examination. Algorithm of X-ray examinations in caries.

	<p>Classification of pulpitis. X-ray examination in pulpitis.</p> <p>Classification of X-ray features of periodontitis (acute apical, chronic with granuloma formation, chronic fibrotic, exacerbation of chronic course). Algorithm of X-ray examinations in periodontitis.</p>
9. X-ray diagnostics of traumas of the jaws and teeth. Temporomandibular joint	<p>Classification of fractures of maxilla, mandibula, cheekbone. X-ray method and other methods in traumas of facial-jaws region.</p>
10. X-ray diagnostics of malignant tumors of the jaws	<p>The main groups of malignant tumors according to histology (cancer, sarcoma) and localization, all methods of diagnostic radiology in tumors of facial-jaw region, indication for and diagnostic value of each method.</p>
11. X-ray diagnostics of benign tumors and cysts of the jaws. The main methods of radiation therapy.	<p>The main groups of odontogenic and non-odontogenic cysts their X-ray features used for differential diagnostics. The main methods of X-ray diagnostics of those cysts.</p> <p>The main groups of benign tumors: odontomas, ameloblastomas, cementomas, myxomas, odontogenic fibroma, osteoclastoma, their X-ray features used for differential diagnostics</p>
12. Diagnostic radiology in salivary glands' diseases	<p>Anatomical features of parotid, submandibular and sublingual salivary glands, classification of their diseases depending on etiology and pathogenesis, characteristic X-ray features of various diseases.</p> <p>Contrast method of X-ray examination, contrast media; indications contraindications and diagnostic value of sialography.</p>
13. Radiation oncology.	<p>Equipment for radiotherapy. Topometry. Methods of radiotherapy. Radiotherapy from 1 field and multiple fields. Distant radiotherapy, intra-tissue irradiation.</p>
15. Basic principles of radiotherapy for tumors of facial-jaw region.	<p>Variants of radiotherapy and their use in the diseases of facial-jaw tumors, possible combination of radiotherapy with other methods of treatment.</p>
16. Credit test	

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**COURSE DESCRIPTION**

31.05.03 Dentistry

field of studies / speciality code and title

2023-2024

<b>Course title</b>	Dermatovenereology
<b>Course workload</b>	Credits and academic hours - 3/108
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
1. General dermatology	<b>SKIN ANATOMY, PHYSIOLOGY, AND HISTOLOGY</b> The structure of the skin and oral mucosa. Cellular composition of the skin and oral mucosa. Fibers, blood vessels, receptors, and skin innervation. Skin appendages: hair, nails, glands. Skin and oral mucosa functions. Basic pathohistological processes in the skin and oral mucosa.
	<b>ELEMENTS OF RASH</b> Primary elements of the rash. Evolution of the elements. The structure of the elements. Classification of the elements. Polymorphic and monomorphic rash. Secondary elements of the rash, their formation mechanisms, classification, tackling and regression.
	<b>METHODS OF EXAMINATION OF DERMATOLOGICAL PATIENT</b> The value of questioning the patient. Anamnesis morbi. Examination of the skin and visible mucous membranes. Evaluation of subjective sensations. Carrying out diagnostic tests and samples, identifying pathognomonic symptoms. Laboratory and instrumental methods of diagnosis.
	<b>GENERAL PRINCIPLES OF DIAGNOSTICS AND TREATMENT OF DERMATOLOGICAL PATIENTS. METHODS OF EXTERNAL TREATMENT</b> The most used groups of drugs. Means of external therapy. Physiotherapy treatments. Phytotherapy. Spa-treatment.
2. Particular dermatology	<b>INFECTIOUS AND PARASITIC DISEASES OF THE SKIN</b> Etiopathogenesis. The clinical picture. The main symptoms and syndromes. Features of the diseases course in children. Differential diagnosis. Principles of diagnostics, treatment and prevention.
	<b>DISEASES OF THE ORAL MUCOSA: LICHEN PLANUS, PEMPHIGUS, LUPUS ERYTHEMATOSUS</b> Etiopathogenesis. The clinical picture. The main symptoms and syndromes. Differential diagnosis.

	<p>Principles of diagnosis, treatment, and prevention</p> <p>DERMATITIS, ECZEMA, TOXICODERMIA. QUINCKE EDEMA, URTICARIA Etiopathogenesis. The clinical picture. The main symptoms and syndromes. Peculiarities in children. Differential diagnosis. Diagnostic principles of treatment and prevention.</p> <p>ERYTHEMA EXUDATIVE MULTIFORME. STEVENS-JOHNSON'S SYNDROME AND LYELL'S SYNDROME Etiopathogenesis. The clinical picture. The main symptoms and syndromes. Peculiarities in children. Differential diagnosis. Diagnostic principles of treatment and prevention.</p> <p>CHEILITISES. PRECANCEROUS DESEASES OF THE LIPS. ROSSOLIMO-MELKERSSON-ROSENTHAL SYNDROME Etiopathogenesis. The clinical picture. The main symptoms and syndromes. Differential diagnosis. Diagnostic principles of treatment and prevention.</p>
<p><b>3. Venerology</b></p>	<p><b>SYPHILIS</b> The general classification. Aetiological agent. Epidemiology. Contributing factors. The incubation period. Pathogenesis. Classification of primary syphilis. The main clinical manifestations of primary syphilis. The concept of decapitated syphilis. complications/ Differential diagnosis. Classification of secondary syphilis. A variety of cutaneous manifestations. Differential diagnosis. Classification of visceral syphilis. Neurosyphilis. Cutaneous manifestations Tertiary syphilis. Classification of congenital syphilis. Classification of early congenital syphilis. Possible signs of fetal syphilis. Significant signs of fetal syphilis. Possible signs of congenital syphilis in infants. Significant signs of congenital syphilis in infants. Significant signs of late congenital syphilis. The complex is the standard serological tests. Treponemal and non-treponemal tests. Modern tests. Types of treatment. Immunity in syphilis. Reinfection and superinfection</p> <p><b>GONORRHEA</b> Definition, causative agent, ways of infection transmission, incubation period. Classification. Clinical manifestations. Complications of gonorrhoea in men. Gonorrhoea in women. Features of the course of gonorrhoea in girls. Blennorea. Prevention methods. Laboratory diagnosis of gonorrhoea. Methods of treatment of gonorrhoea. Criteria for the cure of gonorrhoea. Provocations. Prevention of gonorrhoea.</p>

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**COURSE DESCRIPTION**

31.05.03 Dentistry

field of studies / speciality code and title

2023-2024

<b>Course Title</b>	<b>Disaster Medicine</b>
<b>Course Workload</b>	Credits and academic hours – 3 credits, 108 academic hours
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
<b>Module 1.</b> The current state of development of purulent surgery in Russia and the world.	<b>Topic 1.1.</b> History of purulent surgery and its relationship with surgical and therapeutic specialties.
	<b>Topic 1.2.</b> Method of active surgical treatment of purulent wounds.
	<b>Topic 1.3.</b> Features and principles of treatment of patients with wounds and surgical infections that occurred during natural and man-made disasters
	<b>Topic 1.4.</b> The concept of surgical treatment of a purulent focus
	<b>Topic 1.5.</b> Differences in the surgical treatment of a purulent focus from PST wounds in traumatology. Preoperative management of patients
	<b>Topic 1.6.</b> The choice of the drug for local treatment, depending on the phase of the course of the wound process. Features of local treatment of burn wounds.
<b>Module 2.</b> Providing first aid, emergency and emergency medical care at the prehospital stage. Stopping circulation. Basic cardiopulmonary resuscitation	<b>Topic 2.1.</b> Professional standards and qualification requirements for doctors of various specialties in terms of emergency and emergency medical care.
	<b>Topic 2.2.</b> Basic cardiopulmonary resuscitation and automated external defibrillation in adults. DBK algorithm with AED.
	<b>Topic 2.3.</b> Types of circulatory arrest (asystole, electromechanical dissociation, ventricular fibrillation, pulseless ventricular tachycardia).
	<b>Topic 2.4.</b> Methodology for conducting basic and advanced resuscitation by one and two providers (health workers) in adults and children.
	<b>Topic 2.5.</b> Methods of temporary provision of patency of the upper respiratory tract.

<b>Module 3.</b> Reconstructive and plastic surgery in purulent surgery. Autodermoplasty. Wound plasty with local tissues.	<b>Topic 3.1.</b> Classification of reconstructive and plastic surgeries.
	<b>Topic 3.2.</b> Autodermoplasty: types, technique, indications for use
	<b>Topic 3.3.</b> Wound plasty with local tissues: types, technique, indications for use.
	<b>Topic 3.4.</b> Flap classification
	<b>Topic 3.5.</b> Reconstructive and plastic surgery in the surgical treatment of deep bedsores.
	<b>Topic 3.6.</b> Microsurgical transplantation of tissue complexes: types, technique, indications for use.
<b>Module 4.</b> Strong and poisonous substances.	<b>Topic 4.1.</b> Toxicology
	<b>Topic 4.2.</b> Organization of medical care for those affected by emergency hazardous chemicals (in the focus, outside the focus of chemical damage).
	<b>Topic 4.3.</b> Work in a playful way in a simulation environment according to clinical scenarios using standard medical equipment and improvised means for immobilizing and transporting victims.

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**COURSE DESCRIPTION**

31.05.03 Dentistry

field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Emergency Conditions in Outpatient Dental Practice
<b>Course Workload</b>	Credits and academic hours - 2/72
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
I. Organization of work of the dentist in case of emergency at the outpatient clinic	1. Definition of emergency conditions, especially dental and outpatient centres, medical history, the first aid kit for emergency with somatic complications in the dental offices.
II. First aid for emergency conditions and diseases	1. Emergency care in hypertension.
	2. Emergency care in coronary heart disease, stroke, myocardial infarction.
	3. Emergency care in faint, epiperipatus, shock, collapse.
	4. Emergency treatment of bleeding in hemorrhagic shock in case of accidental injecting corrosive liquids.
	5. Differential diagnosis of head (face) pain: neuralgia of the facial nerve, trigeminal neuralgia.
	6. Emergency aid at acute allergic diseases: urticarial, angioedema, anaphylactic shock.
	7. Emergency aid in bronchial asthma, status asthmaticus.
	8. Coma. Emergencies in diabetes. Hyperglycemic coma. Hypoglycemic coma.
III. Basics of cardiopulmonary resuscitation	1. Emergency care for airway obstruction and hypoventilation. CPR when stop breathing and blood circulation.

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**COURSE DESCRIPTION**

31.05.03 Dentistry

field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Endodontics
<b>Course Workload</b>	Credits and academic hours – 6/216
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
1. Etiology, pathogenesis of dental pulp inflammation. Classification of pulp diseases.	Etiology, pathogenesis, clinical picture, diagnosis, differential diagnosis, treatment, prevention Etiology, pathogenesis of pulpitis. Pulpitis classification ICB-10.
2. Acute pulpitis	Acute pulpitis. Clinic, diagnostics, differential diagnostics, treatment.
3. Chronic pulpitis	Chronic pulpitis. Clinic, diagnostics, differential diagnostics, treatment.
4. Methods of treatment of pulpitis.	Methods for treating pulpitis that preserve the viability of the pulp: biological method, vital amputation. Indications and contraindications for conducting. Methods for the treatment of pulpitis that do not preserve the viability of the pulp. Vital and devital extirpation of the pulp. Indications. Endodontic instrumentation. Root canal processing and filling methods.
5. Etiology, pathogenesis apical periodontitis	Anatomical and physiological features of the periodontium. Etiology, pathogenesis of apical periodontitis. Classification of periodontitis ICD-10
6. Acute apical periodontitis.	Acute periodontitis. Clinic, diagnosis, differential diagnosis, treatment of acute periodontitis.
7. Chronic apical periodontitis	Chronic periodontitis. Clinic, diagnosis, differential diagnosis, treatment of acute periodontitis
8. Methods of treatment of apical periodontitis.	Means and methods of endodontic treatment. Complications in endodontics. Odontogenic sepsis. Focal diseases.
9. Conservative surgical methods in endodontics.	Conservative-surgical methods of treatment in endodontics: crown-radicular separation, hemisection, root amputation, root apex resection, tooth replantation.
10. Methods of treating teeth with problematic canals	Methods of treating teeth with problematic channels: depophoresis, apexphoresis.

11. Dental focus of infection, focal diseases.	Dental focus of infection. Focal diseases. Clinical manifestations, diagnostics and methods of patient examination.
12. Complications and errors in endodontics, bleaching of non-vital teeth.	Errors and complications in endodontics. Errors in the diagnosis of pulpitis and periodontitis. Errors and complications in the treatment of pulpitis and periodontitis. Methods for the prevention and elimination of errors and complications in endodontics. Whitening of non-vital teeth.

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<b>Course Title</b>	English Language: Basic Terminology for Medical Students
<b>Course Workload</b>	Credits and academic hours - 3/108
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
Module 1. Medical terminology	Topic 1.1. Hospital departments
	Topic 1.2. Hospital staff
	Topic 1.3. Hospital equipment
	Topic 1.4. Parts of the body
	Topic 1.5. Respiratory system
	Topic 1.6. Circulatory system
	Topic 1.7. Digestive system
	Topic 1.8. First aid
	Topic 1.9. Common abbreviations
	Topic 1.10. Measurements
	Topic 1.11. Maintaining hygiene
	Topic 1.12. Health and illness. Basics
	Topic 1.13. Medical and paramedical personnel and places
	Topic 1.14. Medical education and training
	Topic 1.15. Systems, diseases and symptoms
	Topic 1.16. Epidemiology
	Topic 1.17. Ethics

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**COURSE DESCRIPTION**

31.05.03 Dentistry

field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Epidemiology
<b>Course Workload</b>	Credits and academic hours – 2/72
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
<b>Module 1.</b> General epidemiology. Epidemiological method and evidence-based medicine. Epidemiological studies.	<b>1.1</b> Short history of the epidemiology development. Epidemiological method (analysis). <b>1.2</b> Establishing an epidemiological diagnosis. The kinds of epidemiological research.
<b>Module 2.</b> Epidemic process. Epidemiological surveillance.	<b>2.1</b> L.V. Gromashevsky's role in the study about the epidemic process – three interconnecting elements: a source of infection, a mechanism of transmission and a susceptible organism. <b>2.2</b> Indicators of the epidemic process. Antiepidemic measures. The basis of preventive measures organization. Levels of prevention. The epidemiological surveillance as a subsystem of the social-hygienic monitoring (SHM).
<b>Module 3.</b> Sapronotic and highly contagious infections.	<b>3.1</b> Highly contagious disease <b>3.2</b> Sources, reservoirs of highly contagious diseases
<b>Module 4.</b> Disinfection, sterilization.	<b>4.1</b> The definition of disinfection. Types of disinfection: prophylactic and nidal (current and final). <b>4.2</b> Control of respiratory infections, enteric infections and highly contagious diseases. <b>4.3</b> Sterilization cleaning of medical instrument <b>4.4</b> Insect control <b>4.5</b> Rodent control
<b>Module 5.</b> Immunoprophylaxis of infectious diseases.	<b>5.1</b> Definition of immunoprophylaxis. Theoretical basis of immunoprevention. <b>5.2</b> The schedules for immunoprophylaxis . Active and passive immunoprophylaxis. Post-exposure immunoprophylaxis.
<b>Module 6.</b> Infectious disease epidemiology. Epidemiology of socially significant infections.	<b>6.1</b> The content of this section is defined by the actual epidemic situation and calendar plan of study course of infectious diseases. <b>6.2</b> Epidemiological characteristics of deadly infectious diseases. Organization of antiepidemic and

	preventive measures.
<b>Module 7.</b> Epidemiology and prophylaxis of nosocomial infections.	<b>7.1</b> Definition of nosocomial infections. Epidemiological, economic significance of hospital infections. <b>7.2</b> Common pathogens of nosocomial infections and their sources. Prevention of nosocomial diseases in medical staff. Post-exposure prevention of HIV, hepatitis viruses (B, C, D). <b>7.3</b> Exogenous and endogenous infections
<b>Module 8.</b> Epidemiology of emergency situations.	<b>8.1</b> Definition of the “emergency situation”. <b>8.2</b> Classification of catastrophes. Basic principles of medical aid and epidemic control organization in the area affected by an emergency.

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**COURSE DESCRIPTION**

**31.05.03 Dentistry**

field of studies / speciality code and title

2023-2024

<b>Course title</b>	Forensic Medicine
<b>Course workload</b>	Credits and academic hours – 2/72
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief description of the Module Content</b>
Module 1 Procedural and institutional issues of forensic medical examination. Forensic thanatology (general and particular aspects)	<p>Particular module - Definition of forensic medicine. Forensic medicine and forensic medical examination. The prominent scientists in forensic medicine in Russia and abroad, their contribution to the development of theory and practice of forensics. The structure of the forensic medicine in Russia.</p> <p>Particular module - The rights and responsibilities of a forensic expert. Types of forensic expertises. Objects of forensic medical examination. Forensic medical examination at the preliminary investigation and in court. Forensic documentation.</p> <p>Particular module - The definition of death. Terminal conditions. The definition of clinical and biological death. Diagnostics of death. Establishing of the time of death. Early cadaveric changes. Late cadaveric changes. Natural conservation of a cadaver. Artificial embalming of a cadaver. The destruction of a cadaver by insects, animals and plants. Deliberate destruction of a cadaver. Methods of body restoration. Forensic significance of cadaveric changes. The definition of cause of death. Competitive causes of death. Category of death, genus of death; violent death: murder, suicide, accident.</p> <p>Particular module - General issues of the cadaver examination on the accident scene (examination order, organization, stages and kinds of the examination of the accident scene). The task of forensic medical expert and the order of a cadaver examination on the accident scene. Procedural documentation of accident scene. The features of a cadaver examination in different kinds of death. The features of an unknown person examination. The features of examination of large-scale catastrophe scene.</p>
Module 2. Forensic medical examination (the examination of a cadaver). Forensic diagnostics in cases of sudden death	<p>Particular module - The reasons for forensic medical examination of a cadaver. The documentation of forensic medical examination. Principles of construction of a forensic medical diagnosis and conclusions based on forensic medical examination of a cadaver. The design of a death certificate.</p> <p>Particular module – Forensic medical examination</p>

	in case of sudden death.
<p>Module 3</p> <p>General issues of forensic medical examination of mechanical damage (thanatogenesis of death due to different mechanical impacts). Injuries caused by blunt solid objects. Falling from height. Traffic accidents. Peculiar properties of maxillofacial region damages due to different traumatic impacts.</p>	<p>Particular module – General forensic traumatology. The main issues to be solved by forensic medical expert in case of mechanical damage.</p> <p>Particular module – Injuries caused by blunt solid objects.</p> <p>Particular module – Transport trauma. The mechanism of injury and morphological signs of injuries caused by cars and other vehicles.</p>
<p>Module 4.</p> <p>Laboratory methods in forensic medicine. Forensic medical identification</p>	<p>Particular module - Forensic examination of the evidences of biological origin (blood, sperm, saliva, hair).</p> <p>Particular module – Estimating the sex and age of a victim by teeth</p>
<p>Module 5.</p> <p>Forensic medical examination in case of damages by sharp objects. Gunshot wounds</p>	<p>Particular module – The mechanism of injury and morphological signs of injuries caused by sharp objects and firearms. Peculiar properties of maxillofacial region damages due to different traumatic impacts.</p>
<p>Module 6.</p> <p>Forensic medical examination of living persons. Forensic medical examination of the gravity of the health damage.</p> <p>Forensic medical examination of criminal and civil cases of medical practitioners’ professional violations.</p>	<p>Particular module – Forensic medical examination of living persons. Legal qualification of the gravity of health damage (severe, medium, light). Ways to cause damage to health (beating, torment, torture). The examination of general and professional ability loss. Forensic documentation. Commission and complex forensic examinations.</p> <p>Particular module – Forensic medical examination of physical evidence of biological origin (blood, semen, saliva, hair). Methods of identification, removal and packaging of traces and physical evidence of biological origin.</p>

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**COURSE DESCRIPTION**

31.05.03 Dentistry

field of studies / speciality code and title

2023-2024

<b>Course Title</b>	General Surgery
<b>Course Workload</b>	Credits and academic hours - 4 credits (144 academic hours)
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
1.General surgery issues	Bleeding, blood loss. Blood products and components Blood transfusion complications. Asepsis. Asepsis. Antisepsis. Bleeding. Hemotransfusion. Preoperative and postoperative periods. Operation. Wounds. Burns. Burn disease. Frostbites. Necrosis. Ulcers. Fistulas. Plastic surgery. Principles of surgical oncology. Local anesthesia. Novocaine blocks. Special diagnostic methods in surgery.
2.Particular issues of surgery	Local and General reaction of the body to infection Surgical sepsis. Principles of treatment of purulent infection Purulent diseases of soft tissues (furuncle, carbuncle, hydradenitis, erysipelas, abscess, phlegmon). Acute inflammation of lymphatic and venous vessels (lymphangitis, lymphadenitis, acute thrombophlebitis). Purulent inflammation of parotid glands and breast (acute parotitis, acute mastitis). Acute paraproctitis. Purulent diseases of fingers and hand. Osteomyelitis. Chest purulent infection (pleural empyema). Peritonitis. Anaerobic infection (clostridial and non-clostridial infection, tetanus). Closed soft-tissue injuries. Fractures and dislocations.



	Closed craniocerebral injury (concussion, contusion, brain compression). Chest trauma (pneumothorax, hemothorax). Abdominal trauma.
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**COURSE DESCRIPTION**

**31.05.03 Dentistry**

field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Gerodontics and Oral Mucosa Diseases
<b>Course Workload</b>	Credits and academic hours – 6/216
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
Examination of the patient with diseases of the oral mucosa.	The structure of the oral mucosa. Elements of the defeat of the oral mucosa.
Differential diagnosis. Preparation of a survey plan and a comprehensive treatment plan.	Classification of diseases of the oral mucosa.
Traumatic lesions of the oral mucosa. Leukoplakia.	Damage due to mechanical, chemical and physical effects. Clinic, diagnosis, treatment. Manifestation of leukoplakia in the oral cavity. Etiology, pathogenesis, diagnosis, treatment
Infectious diseases of the oral mucosa. Allergic diseases of the oral mucosa. Changes in the oral mucosa in dermatoses.	Herpes zoster. Etiology, pathogenesis, diagnosis, treatment. Quincke Edema. Drug allergy. Erythema multiforme exudative. Aphthous stomatitis. Etiology, pathogenesis, diagnosis, treatment. Oral lichen planus, pemphigus vulgaris, lupus erythematosus. Classification, clinic, diagnosis and treatment.
Diseases of the tongue.	Anomalies and diseases of the tongue; folded, diamond-shaped tongue. Glossalgia. Somalia.
Diseases of lips.	Exfoliative, allergic, glandular, eczematous cheilitis. Etiology, pathogenesis, clinic, diagnosis, treatment.
Precancerous diseases of the red border of the lips and oral mucosa. The condition of the oral cavity in elderly people. Features of treatment methods. Prevention of diseases of the oral mucosa.	Classification. Clinical picture, diagnosis, treatment, prevention. The condition of hard tissues of teeth, periodontal and oral mucosa in the elderly is normal and pathological. Features of dental examination and treatment of the elderly

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**COURSE DESCRIPTION**

31.05.03 Dentistry

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field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Gnathology and Temporo-Mandibular Joint's Functional Diagnostics
<b>Course Workload</b>	Credits and academic hours – 2/72
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
1 Basics of clinical Gnathology (biomechanics of the dental system. Functional analysis of the dental system.	Basics of Clinical Gnathology. Morphofunctional elements of the temporomandibular joint. Biomechanics of the masticatory system. Articulators and occluders, facebow. Methods for installing models into the articulator and adjusting it to an individual patient function. Techniques of determining and registering a central occlusion and the central ratio of the jaws. Methods of recording angle of the transversal articular path ("Gothic angle"). Computer methods of axiography and functionography. Costen's syndrome. Methods for determining and recording the height of the lower part of the face. Basics of occlusive diagnosis. "Occlusion Factors". Clinical, laboratory and hardware methods for diagnosing occlusal relationships of the dentitions.
2 The functional status and diagnosis of dentition with defects of teeth and dentition, periodontal disease.	The functional state of the dentofacial systems in case of pathology of hard dental tissues. Methods for determining the speech function. The functional state of the dentofacial systems in the partial absence of teeth. Methods of determining chewing function. The functional state of the dentofacial systems in periodontal

	diseases. Methods for determining the functional state of periodontal (Periotestometry).
3 Diagnosis and orthopedic treatment of patients with pathology of the temporomandibular joint and masticatory muscles	Etiology, pathogenesis, classification, clinical manifestations of diseases of the temporomandibular joint and masticatory muscles. Modern diagnostic methods. Clinical, laboratory and hardware methods for diagnosing occlusion of interconnections of dentitions. Differential diagnosis.
4 Diagnosis and orthopedic treatment of patients with pathology of the temporomandibular joint and masticatory muscles	The basic principles of complex treatment of patients with diseases of the temporomandibular joint and masticatory muscles. Therapeutic and diagnostic devices. Types of occlusal tires. Stage complex treatment. Tactics of management of patients with pathology of occlusion, TMJ, masticatory muscles.

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**COURSE DESCRIPTION**

31.05.03 Dentistry

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2023-2024

<b>Course Title</b>	Head and neck diseases
<b>Course Workload</b>	Credits and academic hours – 2/72
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
<b>Module 1</b> Benign tumors	Classification of tumors. Odontogenic and Neodontogenic jaw tumors. Osteogenic and Non-osteogenic jaw tumors.
	1.2 Jaw cysts. Tumor-like jaw formations. Congenital cysts and fistulas of the face and neck. Benign tumors of the soft tissues of the maxillofacial region.
<b>Module 2</b> Malignant tumors	2.1 Carcinogenesis theories. Oncostomatological care organization. Dispensary groups. Patient examination methods. Facial and oral cavity precancer classification. Optional precancer and background diseases.
	2.2 Facial and oral cavity obligate precancer. Precancer diseases treatment principles
	2.3 Facial skin and lip cancer. Oral mucosa and tongue cancer.
	2.4 Cancer of the upper and lower jaws. Sarcoms.
	2.5 Benign and malignant tumors salivary glands tumors. Malignant treatment principles.

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**Federal State Autonomous Educational Institution of Higher Education PEOPLES'  
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**COURSE DESCRIPTION**

**31.05.03 Dentistry**

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field of studies / specialty code and title

2023-2024

<b>Course title</b>	Immunology, clinical immunology
<b>Course workload*</b>	Credits and academic hours - 4 credits (144 hours)
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
<b>Basic immunology</b>	The subject and tasks of immunology. The definition of immunity. Theories of immunity. Historical milestones in the development of immunology. The structure and function of the immune system. Ontogenesis and Phylogeny. Central and secondary immune organs. Types of immunity. Immunopoiesis. Stem cell. Innate immunity. Receptors of recognition "non-self". Cells of the innate immunity. Phagocytosis. Adhesion molecule. NK-cells. Humoral factors of the innate immunity. Complement system. Antigens and antibodies. The structure and main properties of antigens. The structure and main properties of antibodies. Classification of antigens. Immunoglobulin classes. Interaction between antigen and antibody. Major histocompatibility complex (MHC). HLA I and II. Antigen-presenting cells. Processing and presentation of antigen. Apoptosis. T- и B-lymphocytes. Subpopulations. Maturation

	and differentiation. TCR and BCR. Immune response. Types of immune response. Effector mechanism of immunity. Mucosal immunity. Humoral factors of immune reactions. Classification and properties of cytokines. Receptors to cytokines.
<b>Clinical immunology</b>	Immune diseases. Classification of immunopathological reactions according to Gell and Coombs. Allergy. Allergens. Types of hypersensitivity reactions. The main principles of diagnosis and treatment allergic diseases. Clinical manifestations of allergy in oral cavity. Immune tolerance. Transplantation immunity. Autoimmune disease. Clinical manifestations of autoimmune diseases in oral cavity. Primary and secondary immunodeficiencies. Classification. Diagnosis and treatment. Infection immunity. Infections of oral cavity. Antitumor immunity. Effectors mechanisms of antitumor immunity. Immunoproliferative diseases. Principles of immunodiagnosics and immunotherapy of tumors. Estimation methods of immunity. Immune biotechnology. Monoclonal antibodies. The main principles of immunotherapy and vaccination.

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31.05.03 Dentistry

field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Implantology and Reconstructive Surgery
<b>Course Workload</b>	Credits and academic hours – 2/72
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
<b>Module 1</b> Anomalies and defects of maxillofacial region	<b>1.1</b> Surgical treatment for anomalies and defects of the upper and lower jaws. Operative intervention.
<b>Module 2</b> Periodontology	<b>2.1</b> Surgical preparation of the oral cavity for prosthetics (bone grafting).
	<b>2.2</b> Operations on the soft tissues of the oral cavity.
	<b>2.3</b> Surgical methods in the complex treatment of periodontal diseases
<b>Module 3</b> Dental and maxillofacial implantation	<b>3.1</b> Dental and maxillofacial implantation.
	<b>3.2</b> Types of implantation. Indications, contraindications, diagnostics, preparation for surgery, methods of surgery.

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**COURSE DESCRIPTION**

31.05.03 Dentistry

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2023-2024

<b>Course Title</b>	Infectious Diseases, Phthisiology
<b>Course Workload</b>	Credits and academic hours – 3/108
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
Module 1 Introduction to the course	1.1. Modern state of the problem of infectious diseases. Properties of the causative agents of infectious diseases. Modern methods of laboratory diagnostics of infectious diseases. Principles of treatment of infectious diseases. Tactics of a dentist if infectious disease is suspected in patient.
	1.2. Professional approach of a dentist if infectious disease is suspected in patient.
Module 2 Bacterial infections	2.1. Diphtheria and infectious mononucleosis
	2.2. Sepsis. Pathogenesis basis of prevention, diagnosis and treatment. Odontogenic sepsis, causes, prevention, diagnosis and treatment
	2.3. Chlamydial infections. The clinical manifestations, diagnosis, treatment.
	2.4. Streptococcal infection: acute tonsillitis (angina), erysipelas of face, scarlet fever. Epidemiology. Pathogenesis. Clinic. Laboratory diagnosis. Complications. Principles of treatment
	2.5. Tetanus. Etiology. Epidemiology. Pathogenesis. Clinical manifestations. Laboratory diagnosis. Treatment. Prevention
	2.6. Etiology and pathogenesis of tuberculosis. Methods of diagnosis of tuberculosis. Clinical manifestations of tuberculosis
Module 3 Viral infections	3.1 Influenza, adenovirus infection and other acute viral respiratory disease.
	3.2 Herpes viruses.
	3.3 Mumps viruses
	3.4 HIV infection
	3.5 Viral hepatitis
	3.6 Measles and rubella viruses

Module 4 Etiopathogenesis. Etiology of tuberculosis.	4.1 The content and objectives of the science of phthisiology, its relationship with other medical disciplines.
	4.2 Topic 4.2 Epidemiology situation of tuberculosis around the globe
Module 5 Diagnosis, management, and treatment of tuberculosis	5.1 Diagnostics of the tuberculosis process.
	5.2 Treatment of tuberculosis. The mode and nutrition of a patient with tuberculosis. Management of critical cases in TB practice
Module 6 Tuberculosis in dentist practice.	6.1 Tuberculosis of the skin of the face: classification, clinical manifestations, diagnosis, treatment.
	6.2 Tuberculosis of peripheral lymph nodes: classification, clinical manifestations, diagnosis, treatment.
	6.3 Tuberculosis of the larynx: classification, clinical manifestations, diagnosis, treatment
	6.4 Tuberculosis of the oral cavity, tongue: clinical manifestations, diagnosis, treatment
	6.5 Topic 6.5 Tuberculosis of the bones of the skull, face: clinical and radiological manifestations, diagnosis, treatment
Module 7 Prevention aspects of tuberculosis	7.1 Immunoprophylaxis of tuberculosis (vaccination and revaccination of BCG/BCG-M): indications, contraindications, technique, complications; characteristics of post-vaccination immunity
	7.2 Chemoprophylaxis of tuberculosis (treatment of latent tuberculosis infection): indications, timing, regimens of chemoprophylaxis.
	7.3 TB healthcare: goals, objectives, structure, functional aspects

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**COURSE DESCRIPTION**

31.05.03 Dentistry

field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Innovative Technologies in Dentistry
<b>Course Workload</b>	Credits and academic hours – 2/72
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
1 Noninvasive technologies in the treatment	Method of chemical-mechanical removal of carious lesions. Carisolv system. Dental preparation Saforaid for the treatment of dental caries. Air-abrasive and water-abrasive methods of treatment of dental diseases. The method of treatment of dental caries - ozone therapy. Remotherapy. Deep fluoridation of hard tooth tissues
2 The infiltration method	The infiltration method-ICON.
3 Minimally invasive technologies	Principles of minimal invasive techniques. Diagnostic fissure preparation. fissurotomy Tunnel preparation. Ultrasonic preparation of dental hard tissues. Laser preparation of hard tooth tissues.
4 A.R.T. method of treatment of teeth	Indications and contraindications for the use of A.R.T. techniques. Hand tools used for minimally invasive tooth treatment techniques. Filling materials: glass ionomer cements, compomers, flowable composites. Errors and complications when using minimally invasive techniques

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**31.05.03 Dentistry**

field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Internal Medicine
<b>Course Workload</b>	Credits and academic hours – 7/252
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
Module 1 Methods of physical examination of the patient	General condition, consciousness, position, build, assessment of the skin and mucous membranes, lymph nodes, muscular system, joints (4 hours).
Module 2 Case history. Questioning the patient. General examination of the patient.	Case history writing scheme (4 hours).
Module 3 Methods for the study of respiratory organs	The main complaints. Physical research methods (examination, palpation, percussion, auscultation). Instrumental research methods, laboratory research methods. The main clinical syndromes. Basics of private pathology (pneumonia, COPD, bronchial asthma) (4 hours).
Module 4 Methods of study of the circulatory system	The main complaints. Physical research methods (examination, palpation, percussion, auscultation). Instrumental research methods, laboratory research methods. The main clinical syndromes. Fundamentals of private pathology (AH, CHD, NC, Atherosclerosis, rheumatism, defects) (32 hours).
Module 5 Methods of study of the digestive system	The main complaints. Physical research methods (examination, palpation, percussion, auscultation). Instrumental research methods, laboratory research methods. The main clinical syndromes. Fundamentals of private pathology (gastritis, ulcers, bowel disease) (8 hours).
Module 6 Methods for the study of the liver and biliary tract	The main complaints. Physical research methods (examination, palpation, percussion, auscultation). Instrumental research methods, laboratory research methods. The main clinical syndromes. Fundamentals of private pathology (hepatitis, cirrhosis, cholecystitis, JCB) (8 hours).
Module 7 Methods of examination of the kidneys and urinary tract	The main complaints. Physical research methods (examination, palpation, percussion, auscultation). Instrumental research methods, laboratory research methods. The main clinical syndromes. The basics of private pathology (pyelonephritis, glomerulonephritis, chronic renal failure, acute kidney injury) (8 hours).
Module 8 Methods for examining the blood-forming organs	The main complaints. Physical research methods (examination, palpation, percussion, auscultation). Instrumental research methods, laboratory research

	methods. The main clinical syndromes. Basics of private pathology (anemia, leukemia) (17 hours).
Module 9 Endocrine Research Methods	The main complaints. Physical research methods (examination, palpation, percussion, auscultation). Instrumental research methods, laboratory research methods. The main clinical syndromes. Fundamentals of private pathology (thyroid disease, diabetes) (6 hours).
Module 10 Respiratory diseases	Etiology, pathogenesis, features of clinical manifestations and complications of lung diseases; principles of treatment of pulmonary pathology (pneumonia, COPD, bronchial asthma, lung cancer, tuberculosis)
Module 11 Diseases of the circulatory system	Etiology, pathogenesis, peculiarities of clinical manifestations and complications of heart and vascular diseases; principles of treatment of cardiac pathology (rheumatism, heart defects, infective endocarditis, ischemic heart disease, ox, cardiomyopathy, arterial hypertension, cardiac arrhythmias, heart failure, ECG, echocardiography)
Module 12 Kidney disease	Etiology, pathogenesis, features of clinical manifestations and complications of lung diseases; principles of treatment of renal pathology (glomerulonephritis, amyloidosis, pyelonephritis, acute and chronic renal failure, hemodialysis, kidney transplantation)
Module 13 Diseases of the endocrine system	Etiology, pathogenesis, peculiarities of clinical manifestations and complications of thyroid diseases, diabetes mellitus; principles of treatment.
Module 14 Diseases of the gastrointestinal tract and liver	Etiology, pathogenesis, features of clinical manifestations and complications of diseases of the gastrointestinal tract and liver; principles of treatment (peptic ulcer, diseases of the small and large intestines, acute and chronic hepatitis, cirrhosis of the liver)
Module 15 Diseases of the blood	Etiology, pathogenesis, peculiarities of clinical manifestations and complications of blood diseases; principles of treatment (anemia, acute and chronic leukemia)
Module 16 Diseases of the joints	Etiology, pathogenesis, clinical picture, diagnosis, complications, treatment (gout, osteoarthritis deformans, rheumatoid arthritis, ankylosing spondylitis, reactive and paraneoplastic arthritis)

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**COURSE DESCRIPTION**

31.05.03 Dentistry

field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Introduction to the specialty
<b>Course Workload</b>	Credits and academic hours – 2/72
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
MODULE 1. Introduction to Dentistry. Structure dentistry.	Topic 1.1. Introduction to the specialty of dentistry. History of the development of dentistry. Topic 1.2. Structure of dentistry. Ethics and deontology in dentistry.
MODULE 2. Ergonomics of dental clinic. Organization, equipment and equipping of the dental clinic.	Topic 2.1. Organization and equipment of the dental clinic, departments, offices, functions, staff Provision of dental medical care, levels, standards. Topic 2.2. Types of dental institutions by type of ownership. Insurance in dentistry. Medical records. Topic 2.3. Safety rules when working in dentistry. Personal protective equipment at the dental appointment. Radiology. Rules for working with dental equipment. Topic 2.4. First aid to victims in case of safety violation. Industrial injury. The sequence of actions in case of industrial injury. First aid kit anti-AIDS. Topic 2.5. Equipment. Procedures and standards of equipment of premises. Dental offices of all profiles. Topic 2.6. Dental units, types of handpieces, bur. Equipment maintenance. Ergonomics of work on dental units in 4 hands Topic 2.7. Dental instruments: the main set. Tools for conservative dentistry. Tools for restorations. Structure of tools, purpose, rules of use. Topic 2.8. Tools for conservative dentistry. Structure of tools, purpose, rules of use. Burs. Topic 2.9. Periodontal instruments. Instruments for surgical dentistry. Structure of

	tools, purpose, rules of use. Topic 2.10. Instruments for prosthetic dentistry. Structure of tools, purpose, rules of use.
MODULE 3. Disinfection and sterilization in dentistry.	Topic 3.1. Disinfection and sterilization in dentistry. Topic 3.2. Types of disinfection Topic 3.3. Sterilization. Classification of tools depending on the type of processing. Topic 3.4. Types of waste. Topic 3.5. Final colloquium.

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**COURSE DESCRIPTION**

31.05.03 Dentistry

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2023-2024

<b>Course Title</b>	Latin Language
<b>Course Workload</b>	Credits and academic hours - 2 credits / 72 hours
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
<b>Anatomical and histological terminology</b>	<p>T. 1 Latin Alphabet. Diphthongs and digraphs. Reading and word stress rules.</p> <p>T.2 The system of Latin nominal declension. The rule for determining the declension of nouns. Dictionary form of nouns.</p> <p>T.3 Nouns of the first declension. Non-agreed attributes. The structure of phrases consisting of nouns.</p> <p>T.4 Nouns of the second declensions.</p> <p>T.5 The first and second declension of adjectives. Dictionary form of adjectives. Agreed attributes. The structure of phrases consisting of nouns and adjectives.</p> <p>T.6 Degrees of comparison of adjectives. Features of their use in medical terminology.</p> <p>T.7 Prefixation.</p> <p>T.8 Nouns of the third declensions. Types of the third of declension: consonant, mixed and vowel.</p> <p>T.9 Nouns of the fourth declensions.</p> <p>T.10 Nouns of the fifth declension.</p>
<b>Pharmaceutical terminology</b>	<p>.1. Frequency segments in the names of medicines.</p> <p>T.2 Recipe Structure. T. 3. Basics of chemical terminology.</p>
<b>Clinical terminology</b>	<p>T.1 Prefixation and suffixation as ways of word formation in Latin.</p> <p>T.2 Introduction to Clinical Terminology. Classification of clinical terms.</p> <p>T.3 Basics. Greco-Latin doublets. Single term elements.</p> <p>T.4 Greek TE, denoting body parts, organs, and tissues.</p> <p>T.5 Greek TEs for Therapeutic and Surgical Techniques</p>

	T.6 Greek TE, denoting functional and pathological processes, states. T.7 Greek TE, denoting various physical properties and qualities.
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31.05.03 Dentistry

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2023-2024

<b>Course Title</b>	Local Anesthesia and Anesthesiology in Dentistry
<b>Course Workload</b>	Credits and academic hours – 2/72
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
<b>Module 1</b> Organizing asurgical ward	1.1 Organization of the surgical department (office) of a dental polyclinic. Asepsis and antiseptics in facial and oral surgery. Prevention of AIDS and B - hepatitis.
	1.2 Examination of the surgical dental patient. Deontology and medical ethics.
<b>Module 2</b> Anesthesia in dental surgery	2.1 General anesthesia. Indications and characteristics of general anesthesia for facial and oral surgery. Premedication.
	2.2 Selection of anesthesia and preparation of the patient for intervention in co-morbidities and the elderly. Complications of anaesthesia. Basics of resuscitation.
	2.3 Local anesthetics and drugs used for local anesthesia. Types of local anesthetics.
	2.4 Anesthesia in upper jaw surgery.
	2.5 Anesthesia in mandibular surgery.
	2.6 Local and general complications of local anesthesia.
<b>Module 3</b> Tooth and root extraction surgery	3.1 Features of facial and oral surgery. Techniques for removal of teeth and roots on the upper jaw. Instruments.
	3.2 Methods for removing teeth and roots on the lower jaw. Instruments.
	3.3 Techniques for complex tooth and root extraction.
	3.4 Complications during tooth extraction.
	3.5 Complications following tooth extraction.
	3.6 Features of tooth extraction in persons with co-morbidities.

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**COURSE DESCRIPTION**

31.05.03 Dentistry

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2023-2024

<b>Course Title</b>	Mathematics
<b>Course Workload</b>	Credits and academic hours – 2 / 72
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
Introduction.	1. Mathematics as a method for studying biological systems. Repetition of the basic information from the high school math course.
Linear algebra.	1. Cartesian coordinate system. Solution of a system of two linear equations (SLE) by analytical and graphical methods. 2. Vectors and matrices. Solution of SLE by the Gauss–Jordan method. 3. Linear dependence of equations. General and particular solutions of SLE. 4. Multiplication of vectors and matrices. Determinant and eigenvalues of a matrix.
Differential calculus.	1. Functions and graphs. 2. Fundamentals of Differential Calculus. Analysis of graphs using derivatives. Foundations of Integral Calculus. Separable ordinary differential equations.

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**COURSE DESCRIPTION**

31.05.03 Dentistry

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2023-2024

<b>Course Title</b>	Maxillofacial and Orthognathic Surgery
<b>Course Workload</b>	Credits and academic hours – 6/216
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
<b>Module 1</b> Infectious inflammatory diseases of the maxillofacial region	1.1 Actinomycosis of the maxillofacial region. Tuberculosis, syphilis of the maxillofacial region.
	1.2 Boils, facial carbuncles. Rust infection
<b>Module 2</b> Diseases and injuries of the salivary glands	2.1 Anatomy of salivary glands. Reactive-dystrophic changes (sialosis).
	2.2 Inflammatory diseases of the salivary glands. Salivary gland disease. Damage to the salivary glands.
<b>Module 3</b> Traumatic injuries of the maxillofacial region.	3.1 Statistics and classification of injuries of the maxillofacial region. Classification. Damage to the soft tissues of the face.
	3.2 Non-gunshot injuries of the facial skull bones and teeth. Dislocations and fractures of teeth. Fractures of the alveolar process.
	Fractures of the upper and lower jaw
	3.3 Methods of immobilization in jaw fractures. General methods of treatment and care of patients with jaw fractures.
	3.4 Fractures of the zygomatic bone and arch. Fractures of the nasal bones.
<b>Module 4</b> Diseases of the trigeminal and facial nerves	4.1 Neuritis and trigeminal neuralgia
	4.2 Lingual Pharyngeal Nerve Neuralgia
	4.3 Facial Nerve Damage
<b>Module 5</b> Diseases of the temporomandibular joint	5.1 Inflammatory diseases of the temporomandibular joint
	5.2 Dystrophic diseases of the temporomandibular joint
	5.3 Temporomandibular joint ankylosis Lower jaw contracture
	5.4 Internal Disorders of the Temporomandibular Joint
<b>Module 6</b> Military field surgery	6.1 Organization of military maxillofacial surgery. Peculiarities of gunshot wounds. Firearm injuries of soft tissues of the face. PCS of wounds.
	6.2 Gunshot injuries of facial bones. Combined injuries of the maxillofacial region.
	6.3 Facial burns (thermal, electric burns, chemical burns, frostbites).

	Combined radiation lesions of the face and oral tissues.
	6.4 Complications of gunshot and radial injuries. Methods of treatment of victims in emergency conditions.
<b>Module 7</b> Restorative surgery of the maxillofacial region	7.1 Goals and objectives of reconstructive surgery. Planning of reconstructive surgery. Plastics with local tissues.
	7.2 Plastics with stem flaps. Plastics with Filatov's stem flap
	7.3 Free tissue grafting. Surgical treatment of jaw deformities.

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<b>Course Title</b>	Maxillofacial prosthodontics
<b>Course Workload</b>	Credits and academic hours – 2/72
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
1. Maxillofacial prosthetics. Diagnostic measures and principles. Capturing of facial defects. Impression taking techniques	General considerations about facial and maxillofacial prosthetics. Classification of facial defects and consequent functional disorders. Prosthetic stage as a part of complex rehabilitation process of patients with facial disfigurements. Types of facial prostheses, retention methods. Materials for facial prostheses manufacturing. Endosseous implant supported prostheses: treatment planning. Conventional and digital workflows of facial prostheses manufacturing. Modern imaging systems for the virtual capturing of facial defects. Working cast fabrication for auricular, nasal and orbital prostheses.
2. Facial prosthetics. Technical approaches and methods of facial prostheses manufacturing. Conventional and digital workflows	Detailed characteristics of clinical and laboratory steps for facial prostheses manufacturing. Conventional workflow for auricular, nasal and orbital prostheses. Digital workflow for facial prostheses manufacturing. Computer aided design and manufacturing (CAD/CAM) in maxillofacial prosthetics. Modern software solutions for CAD. General terms and consideration about 3D printing in medicine, dentistry and maxillofacial prosthetics. Maintenance of adequate hygiene level and aftercare for facial prostheses. Recall periods. Complication in facial prosthetics.
3. Maxillofacial prosthetics. Prosthodontic stage as a part of complex rehabilitation process of facial tumors patients.	Rehabilitation and management of maxillectomy patients. Preprosthetic surgical enhancement. Detailed characteristics of clinical and laboratory steps for obturator prostheses manufacturing. Phases of prosthetic restoration. Clinical management and prosthetic restoration of edentulous and dentate maxillectomy patients.

4. Maxillofacial prosthetics. Prosthetics rehabilitation of patients with congenital palatal malformations and acquired defects.	Prosthetics rehabilitation of patients soft and hard palate defects. Types of appropriate prosthetic appliances and their manufacturing workflow. Facial and bite guards as a prophylactic aid of facial bone fractures. General characteristics and manufacturing approaches.
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**COURSE DESCRIPTION**

31.05.03 Dentistry

field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Medical Elementology
<b>Course Workload</b>	Credits and academic hours - 3/108
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
Introduction to Medical Elementology	1. Subject of medical elementology. Biological classification of chemical elements. Concept of bioelements. 2. Biogeochemistry and factors affecting the elemental status of population. 3. New paradigm of nutrition and therapy.
General Elementology	4. Factors affecting the homeostasis of microelements. Interaction between microelements 5. Elemental status of a person. Personalized assessment of human elemental status.
Particular Elementology	6. Elements-organogens (carbon, oxygen, nitrogen, hydrogen): role in the body; absorption; excretion; associated diseases; sources. 7. Macroelements (potassium, sodium, calcium, magnesium, phosphorus, sulfur, chlorine): role in the body; absorption; excretion; deficiency and excess; toxicity; associated diseases; sources. 8. Essential trace elements (iron, zinc, copper, manganese, chromium, cobalt, molybdenum, selenium, iodine): role in the body; absorption; excretion; deficiency and toxicity; associated diseases; sources. 9. Conditionally essential trace elements (lithium, strontium, vanadium, nickel, tin, silicon, fluorine): role in the body; absorption; excretion; deficiency and toxicity; associated

	diseases; sources. 10. Toxic and potentially toxic trace elements (arsenic, aluminum, lead, cadmium, mercury): role in the body; absorption; excretion; toxicity; associated diseases; sources.
The role of chemical elements in dentistry	11. Imbalances of chemical elements for various diseases of the oral cavity: caries, pulpitis, periodontitis, gingivitis, periodontitis, periodontitis.

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**COURSE DESCRIPTION**

31.05.03 Dentistry

field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Medical Genetics in Dentistry
<b>Course Workload</b>	Credits and academic hours – 3/108
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
Heredity and Pathology.	Medical genetics in the structure of the biomedical sciences about man. Heredity and health. Mutations as the etiological factor of hereditary diseases. Classification of hereditary diseases. Heredity and pathogenesis. Heredity and clinical picture. Heredity and disease outcomes
Semiotics of hereditary pathology and principles of clinical diagnostics	General and private semiotics of hereditary pathology. Morphogenetic variants of development and their importance in the diagnosis of hereditary pathology. Anthropometry. Congenital malformations. Family approach in the diagnosis of hereditary pathology. Clinical and genealogical method for the diagnosis of hereditary diseases. Clinical features of the manifestation of hereditary diseases. Graphic image of the pedigree. Pedigree analysis. Genealogical analysis for monogenic diseases. Genealogical analysis in multifactorial diseases. Risk groups depending on the type of possible hereditary pathology
Chromosome abnormality	Classification of chromosomal diseases. Frequency, pathogenesis and clinical features of chromosomal diseases. Clinical characteristics of some chromosomal syndromes (trisomy syndromes, partial aneuploidy syndromes). Diseases with an unconventional type of inheritance. Diagnostic methods for chromosomal diseases. Treatment of chromosomal diseases
Monogenic disorders	Classification of monogenic diseases. Genetic heterogeneity and clinical polymorphism of monogenic diseases. Methods of laboratory diagnosis of monogenic pathology (biochemical methods, molecular genetic methods).
Multifactorial disorders	The most common nosological forms. General and private mechanisms for the implementation of hereditary predisposition. Factors and principles for identifying individuals at increased risk of developing diseases with a hereditary predisposition. Ecogenetic

	diseases
Congenital malformations of the maxillofacial area	General characteristics of the structure of the teeth. Genetic control of the normal development and formation of dental tissue. Genetic factors in the formation of tooth anomalies. Classification of anomalies of the development of teeth and the dentofacial region. Anomalies of the size and shape of teeth (macrodentia, microdentia, merged teeth, doubling, teeth invagination, abnormal tubercles and enamel pearls, taurodenism). Hereditary diseases and syndromes with anomalies of the size and shape of teeth. Anomalies of the number of teeth (teeth angenesis, complementary teeth). Hereditary disorders of the formation of the structure of teeth. Anomalies teething. Hereditary anomalies of malocclusion. Problems of genetic counseling and treatment of hereditary diseases in dentistry
Congenital and hereditary dental abnormality	Cleft lip and palate. The most common monogenic cleft lip and palate syndromes. Atypical crevices of the craniofacial region. Principles of treatment and rehabilitation of patients with congenital orofacial clefts. Problems of rehabilitation of patients with congenital orofacial clefts. Principles of prophylaxis of orofacial clefts
Dental disease multifactorial nature	Multifactorial defects of the craniofacial region and the dental-maxillary apparatus, syndromic forms Common dental diseases of multifactorial nature (genetic aspects of caries, genetic aspects of periodontal diseases)
Prevention of congenital and hereditary dental abnormality	Medical genetic counseling. Methods of prenatal diagnosis of hereditary diseases. Methods for the detection of chromosomal abnormalities and monogenic diseases. Problems of genetic counseling and treatment of hereditary diseases in dentistry.

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**COURSE DESCRIPTION**

31.05.03 Dentistry

field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Medical Informatics
<b>Course Workload</b>	Credits and academic hours - 3/108
<b>Course contents</b>	
<b>Course Module Title</b>	Brief Description of the Module Content
<b>INTRODUCTION TO MEDICAL INFORMATICS</b>	<p><b>Basic concepts of medical informatics.</b> Concept of information, presentation of information in a computer. General characteristics of the collection, transmission, processing and accumulation of information. Methods and means of informatization in medicine and health care.</p> <p><b>Medical Informatics Hardware.</b> The concept of information, representation information in the computer. Computer architecture, main units of IBM PC (system unit, keyboard, monitor), principle of open architecture. Input devices (keyboard, mouse, scanner, joystick, and digitizer). Output device (monitor, printer, plotter). Random access memory. Permanent storage device. External storage devices.</p> <p><b>Software tools for the implementation of information processes.</b> <b>Section contents:</b> Types of software (system software, applications, programming systems), file archiver (Zip, Arj, Rar), virus protection programs. The concept of "operating system", types of operating systems interface (command, graphic). Family of operating systems DOS, Solaris, Linux, Mac OS. Organization of the file system: files, directories (folders), the types of files and folders, current directory, path to the file, names of the devices, the full file name. Logical and physical discs.</p>
<b>TECHNOLOGY FOR PROCESSING MEDICAL DATA USING WORD PROCESSOR</b>	<p><b>Introduction to word processors Microsoft Word, Open Office Writer.</b> Structure of the Program Writer, basic control elements: title bar, menu bar, toolbar, control line, status bar, scroll bar, document window, indicators (input cursor, mouse).</p>

	<p>Creation, saving and closing the document, work with windows search a saved document. Menu structure (File, Edit, View, Insert, Format, Tools, Table, Window). Entering text. Symbols formatting (changing the tracing, font type and size), paragraph formatting (set line spacing, paragraph alignment), tabulation, preview.</p> <p><b>Complex document formatting, special functions.</b> Page settings, headers and footers, input text in multiple columns. Working with lists (bulleted, numbered, multilevel). Stylistic formatting, patterns. Indexes and table of contents. Creating sections. Inserting special symbols, drawings, objects. Editing formulas. Inserting graphics into a document. SmartArt and WordArt.</p> <p><b>Word processor writer, tables</b> Creating a table, cells, rows, columns, headers, borders and flood fill, automatic formatting, inserting rows and columns in the table. Using formulas.</p>
<p><b>MEDICAL DATA PROCESSING TECHNOLOGIES USING SPREADSHEETS</b></p>	<p><b>Introduction to spreadsheet processors Microsoft Excel, OpenOffice Calc</b> Main components of the program: title menu, toolbar, string of formulas, worksheet labels, status bar, the working area. Working area of the program: columns and rows, cells, workbooks and worksheets. Cells addressing. Types of data. Entering and editing data. Cells formatting.</p> <p><b>Using math functions in Microsoft Excel, Open Office Calc.</b> Sorting and searching data, entering formulas, priorities of mathematical operations, actions in a cell. Introduction to basic mathematical, statistical, logical functions.</p> <p><b>Medical data visualization in a spreadsheet.</b> <b>Section contents:</b> Construction and editing of charts, histograms, graphs. Diagram wizard. Chart options. Exploring the construction of a linear function diagram.</p>
<p><b>TECHNOLOGIES FOR STORING AND PROCESSING MEDICAL DATA USING DATABASE MANAGEMENT SYSTEMS.</b></p>	<p><b>Introduction to data base Microsoft Access and OpenOffice Base.</b> Database concept, database management system (DBMS), relational databases. Relational database structure: table, record, field. Data types., Basic elements: tables, forms, reports, queries, macros, modules. Table constructor, form wizard. Database design. Editing field properties, key fields. Direct data entry into a table, data entry using a form.</p> <p><b>Working in a DBMS with medical data.</b> Working with information: search, sorting, queries. Creation of queries. Select query, query to create tables, query to update, add, delete, query designer. Selection conditions, wildcards, operators and operands. Functions, group operations. Search, sorting, selection of records using filter.</p>
<p><b>COMPUTER NETWORKS IN MEDICINE</b></p>	<p><b>Network technologies</b> Types of computer networks: local, corporate network. Network architecture. Search for information in the WWW, search engines, browser. Unified resource locator, keywords, types of information resources. Medical Internet resources</p>

	<p>for finding professional information.</p> <p><b>Internal electronic resources of RUDN University.</b>  e-mail, client and server mail services. Email service providers. Working with letters, attachments, address book. E-mail security basics, SPAM. Internal electronic resources of RUDN University, Telecommunication educational and information system of RUDN University.</p>
<p><b>MEDICAL INFORMATION SYSTEMS</b></p>	<p><b>Introduction to MIS</b>  Classification of medical information systems. General requirements for medical information systems. The importance of standards in creating and ensuring the interaction of medical information systems. Organizational support for the functioning of medical information systems.</p> <p><b>Information model of the treatment and diagnostic process.</b>  The main components of the treatment-diagnostic or health-improving-prophylactic process. Compliance of MIS components with the components of production processes. The activity of a medical worker as an object of informatisation. Introduction to the Remsmed platform. Material, technical and personnel support of the IIA. Business games in the study of IIAs. Models of the activities of the departments of health care facilities. EMMAREHA rehabilitation planning and monitoring system. Medical Information System according to the method of Tavrovsky V.M</p>

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**COURSE DESCRIPTION**

31.05.03 Dentistry

field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Medical rehabilitation
<b>Course Workload</b>	Credits and academic hours – 2/72
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
Basics of rehabilitation. (Part 1)	Types of rehabilitation. Stages of medical rehabilitation.
Basics of rehabilitation. (Part 2)	The concept of a multidisciplinary rehabilitation team. Habilitation.
Disability	Basic concepts of disability. Medical and social expertise.
Rehabilitation features of patients of different age categories.	Principles of medical rehabilitation depending on the age of the patient.
Means and methods of medical rehabilitation.	Basic means and methods used in medical rehabilitation
Ergo therapy	Basic concepts, methods of ergo therapy
General physiotherapy.	Principles of physiotherapy. Physical Factors in Physiotherapy
Massage. Assessment scales in rehabilitation	Basic principles, indications and contraindications for massage therapy. Basic rehabilitation scales
Spa treatment - the third stage of rehabilitation (part 1)	Fundamentals of balneology.
Sanatorium-resort treatment (part 2).	Physical and natural factors used in medical rehabilitation.

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**COURSE DESCRIPTION**

31.05.03 Dentistry

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2023-2024

<b>Course Title</b>	Obstetrics
<b>Course Workload</b>	Credits and academic hours – 3/252
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
Section 1 Medical care in antenatal clinic and maternity hospital.	Topic 1.1. Structure, principles of organization of work and tasks of the antenatal clinic and outpatient hospital, the nature of assistance to the female population, the main indicators of the activities of the antenatal clinic, the principles of antenatal care, the timing of registering pregnant women, prenatal and postnatal patronage, the frequency of visits to the antenatal clinic and the methods of examination during pregnancy, terms of granting and duration of maternity leave, the basis of perinatal risk strategy. Levels of antenatal care in Russian federation.
Section 2 Reproductive system of women. Normal menstrual cycle and its regulation. Family planning, birth control	Topic 2.1. Clinical and physiological features of the reproductive system of women. The menstrual cycle and its regulation. Cyclic changes in the hypothalamus, pituitary, ovaries, uterus. Anatomical and physiological features of the genital organs of women at different ages. Patterns of formation and extinction of the reproductive function of women. Gonadotropic and ovarian hormones. Morphological changes in the ovaries and endometrium. Ovarian and uterine cycle. Functional diagnostic tests. Periods of a woman's life. Topic 2.2. Family planning in the modern world. Principles of family planning counseling. Modern contraception. Principles of selection of contraceptive methods. Contraception in different age periods of a woman. Features of pregnancy prevention in women under 18 years old, after 35 years, the observance of the optimal intervals between childbirths.

<p>Section 3 Birth canal. Fetus as an object of childbirth.</p>	<p>Topic 3.1. Anatomy of the female genital organs, the muscles and fascia of the pelvic floor, the female pelvis from an obstetric point of view, the structure of the pelvis, its differences from the male, the plane of the pelvis, their boundaries and dimensions, anatomical, wire line (axis) and the inclination angle of the pelvis; normal biocenosis of the genital tract, the mechanisms of its protection, the role of the vaginal microflora.</p>
<p>Section 4 Obstetrical examination (methods of examination of pregnant women). Diagnosis of pregnancy. Determination of gestational age.</p>	<p>Topic 3.2. Sizes of fetal head. Obstetrical terms</p> <p>Topic 4.1. Collecting anamnesis in a pregnant woman; conducting a general objective and special obstetric examination, including measuring the abdominal circumference, the height of the uterus, the size of the pelvic planes; determination of the true conjugate (4 ways); measures the Frank size, the dimensions of the lumbosacral rhombus; determination of the presentation, position, and lie of the fetus; examination of the heartbeat of the fetus and its frequency; internal obstetrics examination for determining the degree of maturity of the cervix.</p>
<p>Section 5 Mechanism of labor in cephalic (vertex) presentations.</p>	<p>Topic 5.1 Definition of the mechanism of labor, factors determining the mechanism of labor, occipitoanterior variety of vertex presentation, occipitoposterior variety of vertex presentation.</p>
<p>Section 6 Clinical features and management of labor in occipital presentation. Physiology of postpartum and early neonatal periods Breech presentation</p>	<p>Topic 6.1. Modern views on the causes of the onset of childbirth, the concept of "ripeness for childbirth", pre-birth signs, the clinical signs and periods of childbirth, their course and management, the rules and procedure for examining the soft tissues of the birth canal in puerperal period, the main moments of the first toilet of the newborn, diagnosing the onset of labor, assessing the nature of contractions (frequency, duration, strength and soreness), the condition of the woman in labor and the puerperal. Interpret the partogram, assess the parameters of the fetal heartbeat, determine the signs of placental separation, examine the placenta.</p> <p>Topic 6.2. Changes in the organs and systems of the puerperal, features of the course and management of the postpartum period, modern perinatal technologies, hygiene measures, the basic principles of breastfeeding.</p> <p>Topic 6.3. Etiology, classification, diagnosis of pelvic presentation of the fetus; to demonstrate on the phantom the mechanism of labor in the pelvic presentation; to determine the location of the presenting part in the birth canal; show Tsovyanov and Bracht maneuvers; demonstrate extraction of the head of the fetus according to the method of Mauriceau–Smellie–Veit; make a diagnosis and determine the management of childbirth (vaginal delivery or cesarean section).</p>
<p>Section 7 Multiple pregnancy</p>	<p>Topic 7.1. Definition of multiple pregnancy, features of the formation of fetal eggs in the case of multiple pregnancy, the course of pregnancy and the features of the development of the fetus, methods for diagnosing multiple pregnancy, the course of labor and the features of management, possible complications of both mother and fetus, methods of treatment and</p>

	prevention, management of the II-III stages of labor and the postpartum period.
Section 8 Preeclampsia.	Topic 8.1. Classification of preeclampsia, pathogenesis, clinics, treatment, complications. The main stages of emergency care for eclampsia, as well as the principles of management of labor.
Section 9 Maternal death	

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**COURSE DESCRIPTION**

**31.05.03 Dentistry**

field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Operative Dentistry: Cariology and Hard Tissues
<b>Course Workload</b>	Credits and academic hours – 8/288
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
Organization and equipment of dental office. Ergonomics. Ethics and deontology in dentistry. Examination of the dental patient Medical record.	Standards and requirements for the organization of the dental office. The basic principles of asepsis in therapeutic dentistry. Methods of examination of the dental patient: basic, additional.
Etiology, pathogenesis of dental caries. The role of oral fluid and dental deposits in the pathogenesis of caries.	Dental caries. Definition. Etiology. Theory of caries. Pathogenesis. Classification of caries, including ICD – 10.
Clinic, diagnosis of dental caries. Methods of treatment of dental caries, using various techniques of preparation, the choice of filling material.	Tooth decay of enamel, dentine and cement. Diagnosis, treatment and prevention of dental caries. Errors and complications in the diagnosis and treatment of dental caries.
Non-carious lesions of the teeth that occur before teething.	Etiology, pathogenesis. Clinic, diagnosis, treatment. Methods of treatment of non-carious lesions of hard tissues of teeth, using different techniques of preparation, the choice of filling material. Prevention.
Non-carious lesions of the teeth that occur after teething.	Etiology, pathogenesis. Clinic, diagnosis. Methods of treatment of non-carious lesions of hard tissues of teeth, using different techniques of preparation, the choice of filling material. Prevention.
Teeth whitening. Restoration of teeth. Errors and complications in the diagnosis and treatment of diseases of hard tissues of teeth.	Methods of individual and professional teeth whitening. Stages of aesthetic restoration. Detection, elimination and prevention of errors and complications in the diagnosis and treatment of diseases of hard tissues of teeth.

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**COURSE DESCRIPTION**

**31.05.03 Dentistry**

field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Ophthalmology
<b>Course Workload</b>	Credits and academic hours – 2/72
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
Anatomy. Methods of examination	1.1 Three parts of the visual analyzer. Anatomy of the orbit 1.2 Protective apparatus of the eye. Conjunctiva. 1.3 Lacrimal organs. Tear secretion and evocuation. 1.4 Tunics of the eyeball. Vitreous body. 1.5 examination of the eye with the side light and in transmitted light. The basics of ophthalmoscopy. 1.6 Central and peripheral vision. 1.7 changing of the vision fields. Light perception. Light adaptation.
Visial acuity. Refraction. Accomodation. Binocular vision. The strabismus.	1. Optic system of the visual organ. 2. Visual acuity. 3. Physical and clinical refraction. 4. Accommodation and convergence. 5. refractive errors. Correction. 6. Astigmatism, its types, principles of correction. 7. Presbyopia, principles of correction. 8. Binocular vision. Strabismus, types. Reasons. treatment of strabismus.
Inflammatory eye diseases (conjunctivitis, keratitis, scleritis, uveitis)	3.1 Acute infectious conjunctivitis. Classification. Treatment. Chronic conjunctivitis. Classification. Treatment. Allergic conjunctivitis. Classification. Treatment. 3.2 General symptomes of cornea diseases. Exogenous keratitis. Endogenous keratitis. Etiology, clinical symptomes, treatment. corneal ulcer. Etiology, clinical picture, treatment. outcomes of keratitis. Treatment of keratitis and their consequences. 3.3 Sclerites. The clinical symptomes. 3.4 Iritis. Iridocyclitis. Clinical picture, diagnostics, treatment. Chorioretinitis. Clinical picture, diagnostics, treatment.
Glaucoma cataract	4.1 Definition of glaucoma. Normal and elevated IOP, Etiology, pathogenesis and classification of glaucoma. Acute attack of glaucoma. Features of the clinical picture. Treatment. Methods of treatment of glaucoma Definition of cataract. Classification of cataracts. Link

	cataracts development with systemic diseases. Modern principles of treatment of cataract.
Diseases of the retina and optic nerve Damage to the organ of vision and their prevention. Organization of eye care	5.1 Retinite. Retinal changes in the cases of systemic diseases. The clinical picture. Treatment. Degenerative changes of the retina. The clinical picture. Treatment. 5.2 Inflammatory and not inflammatory diseases of the optic nerve. Features of the clinical picture. Treatment. 5.3 Causes and classification of eye injuries. Damage to the eyelids. Blunt trauma of the eye-ball. Trauma of the orbit. Diagnosis. Treatment. eye burns. Classification. The methods of treatment. Organization of eye care. vision disability
Eye diseases in tropical countries	6.1 Etiology of trachoma, stages of the disease. Complications and consequences of trachoma. Differential diagnosis. Prevention and treatment of trachoma. 6.2 features of ocular pathology in countries with a tropical climate. Classification of eye diseases in tropical countries. helminthiasis (main types). 6.3 ophthalmomyiasis. Treatment, prevention. 6.4 Change of the eye in general diseases. Treatment. the eye diseases in cases of vitamins' deficiency, animals's and plants's poisons

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**COURSE DESCRIPTION**

31.05.03 Dentistry

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2023-2024

<b>Course Title</b>	Oral Surgery
<b>Course Workload</b>	Credits and academic hours – 5/216
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
<b>Module 1</b> Periodontitis	1.1 Etiology, pathogenesis and classification of odontogenic inflammatory diseases of the maxillofacial region
	1.2 Etiology, pathogenesis and classification of periodontitis. Acute periodontitis. Pathological anatomy, clinical picture, diagnosis, differential diagnosis, prevention.
	1.3 Chronic periodontitis. Pathological anatomy, clinical picture, diagnosis, differential diagnosis, prevention.
	1.4 Surgical treatment of chronic periodontitis. Tooth-preserving operations. Indications, contraindications, techniques, complications.
<b>Module 2</b> Periostitis of the jaw	2.1 Etiology, pathogenesis and classification. Acute periostitis. Pathological anatomy, clinical picture, diagnosis, differential diagnosis, treatment, prevention..
	2.2 Chronic periostitis. Pathological anatomy, clinical picture, diagnosis, differential diagnosis, treatment, prevention.
<b>Module 3</b> Odontogenic osteomyelitis of the jaw	3.3 Etiology, pathogenesis, pathological anatomy, clinical picture (Acute, subacute, chronic stages of osteomyelitis).
	3.4 Diagnostics, differential diagnostics, treatment, prevention.
<b>Module 4</b> Diseases of the lymphatic system	4.1 Lymphatic system of the face and neck.  Lymphangitis. Etiology, pathogenesis, pathological anatomy, clinical picture, diagnosis, differential diagnosis, treatment, prevention.
	4.2 Lymphadenitis. Etiology, pathogenesis, pathological anatomy, clinical picture, diagnosis, differential diagnosis, treatment, prevention.
	4.3 Adenophlegmon. Etiology, pathogenesis, pathological anatomy, clinical picture,



	diagnosis, differential diagnosis, treatment, prevention.
<b>Module 5</b> Diseases of teething	5.1 Pericoronitis. Etiology, pathogenesis, pathological anatomy, clinical picture, diagnosis, differential diagnosis, treatment, prevention.
	5.2 Misplacement and retention teeth. Classification, clinical picture, diagnosis, removal of certain groups of teeth, complications, prevention.
<b>Module 6</b> Odontogenic inflammation of the maxillary sinus	6.1 Anatomy of the maxillary sinus. Etiology, pathogenesis, pathological anatomy.
	6.2 Clinical picture, diagnosis, differential diagnosis, treatment, prevention.
<b>Module 7</b> Abscesses and phlegmon located near the lower jaw	7.1 Classification, General principles of diagnosis. Changes in the body's immunological reactivity in case of odontogenic inflammatory diseases. Abscesses and phlegmon of the submandibular and mental region.
	7.2 Abscesses and phlegmons of the peripharyngeal, pterygo-maxillary and posterior-maxillary spaces.
	7.3 Abscesses of the maxillary-lingual groove, sublingual region, retromolar space. Abscesses of the body and root of the tongue.
	7.4 Phlegmon of the floor of the mouth. Putrid-necrotic phlegmon of the face and neck.
<b>Module 8</b> Abscesses and phlegmon located near the upper jaw	8.1 Abscesses and phlegmon of the infraorbital, zygomatic, buccal regions. Phlegmon of the orbit. Phlegmon of the temporal region, infratemporal and pterygopalatine fossae.
	8.2 Abscesses and phlegmons of the parotid-masticatory and submasserial areas. General principles for the treatment of abscesses and phlegmon of the face and neck. Physiotherapy and rehabilitation of patients.
<b>Module 9</b> Complications of odontogenic inflammatory diseases	9.1 Thrombophlebitis of the facial veins. Thrombosis of the cavernous sinus. Mediastinitis. Meningitis. Sepsis.

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**COURSE DESCRIPTION**

31.05.03 Dentistry

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2023-2024

<b>Course Title</b>	Organization of General Care
<b>Course Workload</b>	Credits and academic hours – 2/72
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
<b>General issues</b>	Topic 1.1. Organization of outpatient medical care.
	Organization of inpatient medical care
	Topic 1.2. Staff training. Job responsibilities. Medical-legal, medical-social, medical-psychological, pedagogical aspects. Organization of the patient's school.
<b>Particular issues</b>	Topic 1.3. Principles of general and specialized patient care.
	Topic 2.1. Transportation of patients. Helping seriously ill patients with physiological discharges.
	Topic 2.2. Patient's personal hygiene. Patient's position in bed.
	Topic 2.3. Features of special care for seriously ill patients.
	Methods for the prevention of pressure ulcers. Special aspects of patient care.
	Topic 2.4. Observation of the patient. Thermometry. Physical diagnostics.
	Topic 2.5. Patient nutrition: natural and artificial.
	Topic 2.6. Patient care in the postoperative period.
	Topic 2.7. Technique for performing gastric lavage, bladder catheterization and enemas.
Topic 2.8. Preparing patients for surgery and special diagnostic methods.	
Topic 2.9. Prevention of nosocomial infection.	

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**COURSE DESCRIPTION**

31.05.03 Dentistry

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field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Orthodontics and pediatric prosthetics
<b>Course Workload</b>	Credits and academic hours – <b>6/216</b>
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
Introduction to the specialty. Organization of orthodontic care. Age features of the dentoalveolar system. Etiology, classification of dentoalveolar anomalies.	Introduction to the specialty. Organization of orthodontic help. Age features of the dentoalveolar system. Etiology of dental anomalies. Classification of dental anomalies.
Methods of examination and diagnostics in orthodontics.	Clinical method of examination in orthodontics. Anthropometric methods of examination. X-ray methods of examination. Functional examination methods.
Methods of treatment in orthodontics. Prevention of dental anomalies	Methods of treatment in orthodontics. Classification of devices. Apparatuses of mechanical action. Devices of functional-guiding and combined action. Trainers, activators and regulators of functions.
Modern technologies in orthodontics	Modern orthodontic methods of treatment. Bracket system.

<p>Dental anomalies. clinical forms. Diagnostics. Treatment.</p>	<p>Diagnosis and methods of treatment of anomalies of teeth, dental arches, and jaw bones.</p> <p>Diagnosis and treatment of anomalies of occlusion in the sagittal direction.</p> <p>Diagnosis and treatment of anomalies of occlusion in the vertical direction .</p> <p>Diagnosis and treatment of anomalies of occlusion in the transverse direction.</p>
<p>Dental prosthetics in children and adolescents.</p>	<p>Principles of treatment of dentoalveolar anomalies in congenital malformations of the maxillofacial region.</p> <p>Dental prosthetics in children and adolescents.</p>

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**COURSE DESCRIPTION**

31.05.03 Dentistry

field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Otorhinolaryngology
<b>Course Workload</b>	Credits and academic hours – 2/72
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
Research methods of ENT – organs.	Research methods of ENT – organs: anterior rhinoscopy, posterior rhinoscopy, pharyngoscope, otoscopy.
Pathology of the nose and paranasal sinuses.	Injuries of the nose and paranasal sinuses. Nosebleeds. Foreign body of the nasal cavity and paranasal sinuses. Acute and chronic rhinitis. Inflammatory diseases of the paranasal sinuses.
Pathology of the pharynx.	Angina, complications of angina. Adenoids. Foreign body of the pharynx.
Pathology of the ear.	Diseases of the external ear. Acute middle ear infections. Mastoiditis. Chronic diseases of the middle ear.
Pathology of the larynx	Acute diseases of the larynx. Stenosis of the larynx. Tracheotomy
Tumors of the ear and upper respiratory tract	Tumors of the ear and upper respiratory tract

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**COURSE DESCRIPTION**

31.05.03 Dentistry

field of studies / speciality code and title

2023-2024

<b>Course title</b>	Pathologic Anatomy - Pathologic Anatomy of the Head and Neck
<b>Course workload</b>	Credits and academic hours – 4/144
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief description of the module content</b>
Pathologic anatomy of cells and tissues.	Necrosis. Apoptosis Intracellular accumulation: Hyaline changes. Amyloidosis: Pathological calcification (calcification). Disorders of pigment (chromoprotein) metabolism. Pigmentation disorders.
Pathologic anatomy of typical pathological processes.	Violations of the water-electrolyte balance. Circulatory disorders: shock, thrombosis, embolism, DIC. A heart attack. Acute inflammation. Chronic inflammation. Regeneration and wound healing. Pathological conditions of the immune system. Hypersensitivity reactions. Graft rejection. Autoimmunization and autoimmune diseases. Immune deficiency syndromes. Manifestations in the orofacial area. Pathology of cell growth and differentiation. Adaptation processes. Examples in the orofacial area.
Pathologic anatomy of tumors.	The concept of precancerous conditions, examples in the orofacial area. The concept of "cancer in place". Epithelial tumors. Mesenchymal neoplasms. Tumors of the bronchi and lungs. Tumors of the nervous system. Melanocytic tumors. Examples of epithelial and mesenchymal tumors in the head and neck. Teratomas. Dermoid cyst as a variant of mature teratoma.
Pathologic anatomy of blood and bone marrow cells.	Hematopoietic tissue tumors (leukemias). Hodgkin's disease (lymphogranulomatosis), non-Hodgkin's lymphoma. Anemia. Manifestations of leukemia, lymphoma, and

	anemia in the orofacial region.
Pathologic anatomy of diseases of the cardiovascular system.	Atherosclerosis. Cerebrovascular disease. Coronary heart disease. Hypertension. Rheumatic diseases: rheumatism, rheumatoid arthritis, systemic lupus erythematosus, scleroderma disease, Sjogren's syndrome. Heart defects.
Pathologic anatomy of diseases of internal organs.	Kidney diseases. Liver diseases. Diseases of the gastrointestinal tract.
Pathologic anatomy of infectious diseases.	General characteristics of infectious diseases. Viral infections: bronchitis, pneumonia, flu, measles, HIV infection. Bacterial infections: diphtheria, scarlet fever. Specific diseases: tuberculosis, sarcoidosis, syphilis, leprosy, scleroma. Quarantine infections: plague, smallpox, cholera, anthrax, sepsis, odontogenic sepsis.
Pathologic anatomy of orofacial pathology.	Tumors and tumour-like formations of the scalp and neck. Pathology of the oral mucosa and lips. Non-tumor lesions of the salivary glands. Tumors of the salivary glands. Pathology of hard tooth tissues, pulp and periapical tooth tissues. Periodontal diseases. Diseases of the jawbones. Odontogenic infection.

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**COURSE DESCRIPTION**

31.05.03 Dentistry

field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Pathophysiology – Pathophysiology of Head and Neck
<b>Course Workload</b>	Credits and academic hours – 5/180
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
<b>Module 1</b> General nosology.	<b>Topic 1.1.</b> Conceptions of health and disease. Sano- и pathogenesis.
	<b>Topic 1.2.</b> Pathology of cellular biomembranes and organells. Types and mechanisms of cell death. Disorders of biorhythms of a cell.
<b>Module 2</b> Non-specific pathological processes	<b>Topic 2.1.</b> Disorders of local blood circulation.
	<b>Topic 2.2.</b> Inflammation. Features of inflammatory processes in the maxillofacial region. Traumatic lesions of oral tissues. Wound process and regeneration in dentistry.
	<b>Topic 2.3.</b> Pathogenesis of inflammatory diseases of the oral cavity. Pulpitis. Periodontitis. Gingivitis. Periodontitis. Rapidly progressive and juvenile periodontitis. Sialadenitis. Cheilitis. Glossites.
	<b>Topic 2.4.</b> The microflora of the oral cavity and its influence on the development of systemic and local pathological processes. Caries.
	<b>Topic 2.5.</b> Mechanisms of immune protection. Pathology of the immune system. Immunity of the oral cavity and mechanisms of its damage.
	<b>Topic 2.6.</b> Allergy. Features of allergic reactions in dentistry.
	<b>Topic 2.7.</b> Pathophysiology of tumor growth. Typical pathological processes of the salivary glands; tumor and non-tumor diseases of the salivary glands (sialadenitis, etc.).
<b>Module 3</b> Non-specific metabolic disorders	<b>Topic 3.1.</b> Hypoxia. Pathogenesis of periodontal diseases against the background of oxygen deficiency in tissues.
	<b>Topic 3.2.</b> Pathology of body thermoregulation. Fever.



	<p><b>Topic 3.3.</b> Pathophysiology of carbohydrate metabolism. Diabetes. Manifestations of diabetes in the oral cavity.</p> <p><b>Topic 3.4.</b> Pathology of water-salt metabolism. Edema. Pathophysiology of the acid-base state of the body. Acid-base disorders in the oral cavity.</p> <p><b>Topic 3.5.</b> Typical pathological processes in the maxillofacial region.</p> <p><b>Topic 3.6.</b> Pathophysiology of fat, protein and purine metabolism. Protein metabolism disorders in the pathogenesis of caries.</p>
<p><b>Module 4</b> Extreme states</p>	<p><b>Topic 4.1.</b> Pathophysiology of extreme states.</p> <p><b>Topic 4.2.</b> Pathophysiology of pain. Odontogenic pain. Changes in the maxillofacial apparatus in neuralgia and neuritis of the facial and trigeminal nerves. Paresis, paralysis, trismus. Stress. Shock. Collapse. Coma. Dying and revival of the body. Clinical and biological death. principles of resuscitation.</p> <p><b>Topic 4.3.</b> Pain and dental stress. Pathogenesis of myofascial pain in the maxillary fossa.</p>
<p><b>Module 5</b> Pathophysiology of the hematopoietic system</p>	<p><b>Topic 5.1.</b> Anemias. Hemoblobonosis. Hemoglobinopathies.</p> <p><b>Topic 5.2.</b> Leukocytosis. Leukopenia. Leukemias. Changes in the oral mucosa in diseases of the hematopoietic system.</p> <p><b>Topic 5.3.</b> Clinical tasks in the pathophysiology of the hematopoietic system.</p> <p><b>Topic 5.4.</b> Hemorrhagic diathesis. Dental manifestations and their pathogenesis.</p>
<p><b>Module 6</b> Pathophysiology of the cardiovascular and respiratory systems.</p>	<p><b>Topic 6.1.</b> Arrhythmias.</p> <p><b>Topic 6.2.</b> Coronary heart disease. Coronarogenic and noncoronarogenic necrosis of the myocardium. Complications of myocardial infarction.</p> <p><b>Topic 6.3.</b> Acute coronary syndrome.</p> <p><b>Topic 6.4.</b> Heart defects. Cardiomyopathies. Myocarditis. Endocarditis. Pericarditis.</p> <p><b>Topic 6.5.</b> Heart failure. Pathophysiology of respiration.</p> <p><b>Topic 6.6.</b> Pathophysiology of bronchial obstruction syndromes.</p> <p><b>Topic 6.7.</b> Pathophysiology of vascular tonus.</p> <p><b>Topic 6.8.</b> Pathophysiology of the vascular wall. Atherosclerosis.</p>
<p><b>Module 7</b> Pathophysiology of the gastrointestinal tract</p>	<p><b>Topic 7.1.</b> Pathophysiology of the chewing apparatus. Pathogenesis of diseases of the temporomandibular joint.</p> <p><b>Topic 7.2.</b> Non-specific dysfunctions of the gastrointestinal tract.</p> <p><b>Topic 7.3.</b> Acute and chronic gastritis. Peptic ulcer. Diseases of the operated GIT.</p> <p><b>Topic 7.4.</b> Pathophysiology of the liver and bile ducts. Jaundice. Hepatic failure. Pathophysiology of</p>

	cholecystitis. Pathophysiology of the pancreas. Intestinal obstruction.
<b>Module 8</b> Pathophysiology of the excretory system	<b>Topic 8.1.</b> Non-specific disorders of the excretory function of the kidneys. <b>Topic 8.2.</b> Nephrotic syndrome. Nephritic syndrome. Acute and chronic diffuse glomerulonephritis. Pyelonephritis. Urolithiasis. Acute and chronic renal failure. Uremia. Renal coma.
<b>Module 9</b> Pathophysiology of the endocrine system	<b>Topic 9.1.</b> General mechanisms of endocrine disorders. Pathophysiology of the hypothalamic, pituitary and adrenal systems. <b>Topic 9.2.</b> Pathophysiology of thyroid, parathyroid glands, thymus, epiphysis and gonads. <b>Topic 9.3.</b> Dental manifestations of endocrine pathology.
<b>Module 10</b> Pathophysiology of the nervous system and higher nervous activity	<b>Topic 10.1.</b> Pathophysiology of functional neuroses. Pathological reflexes. Pathophysiology of drug addiction. Pathophysiology of alcoholism. <b>Topic 10.2.</b> Pathophysiology of CNS and neuroses.

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**COURSE DESCRIPTION**

31.05.03 Dentistry

field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Pediatric Dentistry
<b>Course Workload</b>	Credits and academic hours - 4 /144
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
Dental caries in children	Anatomical and physiological features of teeth in children. Methods of examination of a child in the clinic of pediatric therapeutic dentistry. Etiology and pathogenesis of dental caries in children. Classification of caries. Clinical features of the course of dental caries in children of different age groups. Diagnostic methods. Enamel caries of temporary and permanent teeth in children. Dental caries of temporary and permanent teeth. Diagnostics. Cement caries of temporary and permanent teeth. Treatment. Suspended dental caries. Complications in the treatment of dental caries in children. Prevention of caries.
Non-carious lesions of the hard tissues of the teeth	Pathology of hard tooth tissues during their follicular development. Systemic enamel hypoplasia (SEH). Local hypoplasia. Tetracycline teeth. Other types of SEH. Endemic dental fluorosis. Diagnostics. Treatment. Enamel hyperplasia. Hereditary disorders of dental tissue development. Hereditary amelogenesis imperfecta. Hereditary disorders of dental tissue development. Imperfect dentin and odontogenesis.
Pulpitis in children	Anatomical and physiological features of the pulp of temporary and permanent teeth in children of different ages. Etiology and pathogenesis of pulpitis. Classification. Clinic. Methods for assessing the pulp condition in children. Diagnosis of pulpitis in children. Methods of treatment of pulpitis of temporary and permanent teeth in children. Conservative method of treatment of pulpitis of temporary and permanent teeth in children. Devital method of treatment of pulpitis of

	temporary and permanent teeth in children. Treatment of pulpitis in children under anesthesia. Errors and complications in the diagnosis and treatment of pulpitis in children.
Periodontitis in children. Emergency dental care	Classification and clinical picture of periodontitis in children. Diagnosis and differential diagnosis of periodontitis. Treatment of periodontitis of baby teeth in children. Treatment of periodontitis of permanent teeth in childhood. Long-term results of dental periodontitis treatment in children. Emergency dental care for children.
Traumatic dental injuries in children	Traumatic dental injuries in children.
Diseases of the oral mucosa in children	Anatomical and physiological features of the mucous membrane of the oral cavity in children. Classification of diseases of the oral mucosa. Traumatic injuries of the mucous membrane of the oral cavity. Candidiasis in children. Acute herpetic stomatitis in children. Clinic. Diagnostics. Treatment. Recurrent herpetic stomatitis. Herpangina. Streptostaphylococcal lesions of the skin of the perioral region and lips. Manifestation of acute infectious diseases on the oral mucosa in children. Treatment. The condition of the oral mucosa in children with diseases of internal organs and systems. Manifestations of drug and bacterial allergies in the oral cavity in children. Manifestation of HIV infection in the oral cavity in children. Damage to the oral mucosa in children caused by tuberculosis and syphilitic infection. Differential diagnosis of various mucous membrane of the oral cavity lesions in childhood.
Periodontal diseases in children	Cheilitis in children. Glossitis in children. Anatomical and physiological features of periodontal disease in children. Periodontal diseases in childhood. Classification. Gingivitis. Periodontitis in childhood. Idiopathic diseases with progressive lysis of periodontal tissues. Clinic. Diagnostics.

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**COURSE DESCRIPTION**

31.05.03 Dentistry

field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Pediatric Maxillofacial Dentistry
<b>Course Workload</b>	Credits and academic hours – 3/108
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
<b>Module 1</b> Patterns of growth and development of children	<b>1.1.</b> Periods of childhood. Physical, neuropsychological and sexual development of children. Criteria of classification of childhood into periods. Criteria of assessment of normal development and its abnormalities. Features of dental treatment of children with attention deficit disorder.
	<b>1.2.</b> WHO physical development
	<b>1.3.</b> Features of the formation of the dental system in childhood
	<b>1.4.</b> Anatomical and physiological features of the musculoskeletal system. Diseases of the musculoskeletal system (Rickets)
<b>Module 2</b> The main somatic diseases of children	<b>2.1.</b> The newborn baby. Borderline states of the newborn. Prematurity. IUGR. Perinatal CNS injury. Neonatal infections. Candidal stomatitis. Neonatal jaundice.
	<b>2.2.</b> The child with cough. Bronchitis, pneumonia, cystic fibrosis. Features of dental care for children with chronic bronchopulmonary diseases
	<b>2.3.</b> Bronchial asthma. Allergic rhinitis. Atopic dermatitis. Clinical and diagnostic signs of allergic diseases of the oral mucosa in children.
	<b>2.4.</b> Congenital heart defects. Minor developmental anomalies. Non-rheumatic carditis. Infectious endocarditis. Antibacterial prevention of infectious endocarditis in dental

	treatment. Juvenile arterial hypertension. Features of dental care for children with heart and vascular diseases.
	<b>2.5.</b> Diseases of the urinary system. Urinary tract infections. Glomerulonephritis. Changes in the oral cavity in chronic kidney disease.
	<b>2.6.</b> Diseases of the gastrointestinal tract. Dental aspects of gastroenterological diseases.
	<b>2.7.</b> Endocrine diseases. Chronic eating disorders. Diabetes mellitus. Diseases of the thyroid gland. Features of the development of the dental system in eating and metabolic disorders of children.
<b>Module 3</b> Pediatric infectious diseases	<b>3.1.</b> Exanthema: measles, rubella, parvovirus infection.
	<b>3.2.</b> Enterovirus infections. Poliomyelitis
	<b>3.3.</b> Mumps, diphtheria
	<b>3.4.</b> Meningeal syndrome. Bacterial and viral meningitis. Meningococcal infection..
	<b>3.5.</b> Streptococcal infection. Scarlet fever. Yersiniosis. Pseudotuberculosis. Multisystem inflammatory syndrome in children.
	<b>3.6.</b> Herpes infection.
	<b>3.7.</b> Acute intestinal infections. Hemolytic uremic syndrome

**DEVELOPERS:**

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**COURSE DESCRIPTION**

31.05.03 Dentistry

field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Pediatrics
<b>Course Workload</b>	Credits and academic hours - 3/108
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
<b>Module 1</b> Patterns of growth and development of children	<b>1.1.</b> Periods of childhood. Physical, neuropsychological and sexual development of children. Criteria of classification of childhood into periods. Criteria of assessment of normal development and its abnormalities. Features of dental treatment of children with attention deficit disorder.
	<b>1.2.</b> WHO physical development
	<b>1.3.</b> Features of the formation of the dental system in childhood
	<b>1.4.</b> Anatomical and physiological features of the musculoskeletal system. Diseases of the musculoskeletal system (Rickets)
<b>Module 2</b> The main somatic diseases of children	<b>2.1.</b> The newborn baby. Borderline states of the newborn. Prematurity. IUGR. Perinatal CNS injury. Neonatal infections. Candidal stomatitis. Neonatal jaundice.
	<b>2.2.</b> The child with cough. Bronchitis, pneumonia, cystic fibrosis. Features of dental care for children with chronic bronchopulmonary diseases
	<b>2.3.</b> Bronchial asthma. Allergic rhinitis. Atopic dermatitis. Clinical and diagnostic signs of allergic diseases of the oral mucosa in children.
	<b>2.4.</b> Congenital heart defects. Minor developmental anomalies. Non-rheumatic carditis. Infectious endocarditis. Antibacterial prevention of infectious endocarditis in dental treatment. Juvenile arterial hypertension. Features of dental care for children with heart



	and vascular diseases.
	<b>2.5.</b> Diseases of the urinary system. Urinary tract infections. Glomerulonephritis. Changes in the oral cavity in chronic kidney disease.
	<b>2.6.</b> Diseases of the gastrointestinal tract. Dental aspects of gastroenterological diseases.
	<b>2.7.</b> Endocrine diseases. Chronic eating disorders. Diabetes mellitus. Diseases of the thyroid gland. Features of the development of the dental system in eating and metabolic disorders of children.
<b>Module 3</b> Pediatric infectious diseases	<b>3.1.</b> Exanthema: measles, rubella, parvovirus infection.
	<b>3.2.</b> Enterovirus infections. Poliomyelitis
	<b>3.3.</b> Mumps, diphtheria
	<b>3.4.</b> Meningeal syndrome. Bacterial and viral meningitis. Meningococcal infection..
	<b>3.5.</b> Streptococcal infection. Scarlet fever. Yersiniosis. Pseudotuberculosis. Multisystem inflammatory syndrome in children.
	<b>3.6.</b> Herpes infection.
	<b>3.7.</b> Acute intestinal infections. Hemolytic uremic syndrome

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**COURSE DESCRIPTION**

31.05.03 Dentistry

field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Periodontology
<b>Course Workload</b>	Credits and academic hours – 7/252
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
The structure of the periodontium. Etiology and pathogenesis of periodontal disease. Classification of periodontal diseases.	The concept of periodontal complex. Modern view on the etiology and pathogenesis of periodontal disease.
The prevalence of periodontal disease. Examination of a patient with periodontal disease. Methods of diagnosis of periodontal disease.	Classifications. Features of examination of patients with periodontal disease Methods of index evaluation. Basic and additional research methods.
Gingivitis	Gingivitis acute and chronic, hyperplastic, ulcerative. Clinic, diagnosis, treatment, prevention.
Periodontitis	Periodontitis. Clinic, diagnosis, treatment, prevention.
Periodontosis.	Periodontosis. Clinic, diagnosis, treatment, prevention.
Periodontolisis.	Periodontolisis. Clinic, diagnosis, treatment, prevention.
Periodontal disease.	Clinic, diagnosis, treatment.
The structure of the periodontium. Etiology and pathogenesis of periodontal disease	The influence of somatic diseases on the inflammatory process in the periodontium. Features of treatment and prevention.
Features of periodontal disease course in patients with General somatic pathology. Non-surgical treatments	Professional oral hygiene, local anti-inflammatory therapy.

<p>Surgical treatments The concept of complex treatment of periodontal diseases (non-surgical, surgical, orthopedic). Prevention of periodontal disease.</p>	<p>Open curettage, periodontal pockets, flap surgery, gingivectomy, mucogingival surgery. Treatment of the patient is individual and complex: General and local; conservative and surgical, including orthopedic treatment - splinting of mobile teeth and selective grinding of teeth. Maintenance therapy. Dispensary observation.</p>
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31.05.03 Dentistry

field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Pharmacology
<b>Course Workload</b>	Credits and academic hours – 5 (180)
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
General Pharmacology	1. Recipe. Introduction to Pharmacology. Types of prescriptions. Formulation rules in the Russian Federation. Types of dosage forms. ATC classification. 2. Basic principles of pharmacodynamics Mechanisms of drug action and effects. Therapeutic index, therapeutic range. Therapeutic drug monitoring. Pharmacodynamic interaction of drugs. 3. Basic principles of pharmacokinetics. Basic pharmacokinetic parameters and their significance. Factors affecting the value of pharmacokinetic parameters.. Pharmacokinetic interaction of drugs.
Pharmacology of drugs groups. Drugs affecting afferent and efferent innervation	1. Drugs affecting afferent innervation. Local anesthetics. 2. Cholinergic agents. Anticholinergics. Cholinomimetics. 3. Adrenomimetics and sympathomimetics 4. Adrenolythics and sympatholytics. Classification. Pharmacodynamics, mechanism of action. Pharmacokinetic parameters. Indications. Contraindications Adverse reactions. Drug interactions. Use in special categories of patients.
Pharmacology of drugs groups. Drugs affecting the cardiovascular system	1. Diuretics Carbonic anhydrase inhibitors. Osmodiuretics. Loop diuretics. Diuretics acting on the cortical segment of Henle's loop. Potassium-sparing diuretics. 2. Lipid-lowering agents Statins; fibrates; derivatives of nicotinic acid; bile

	<p>acid sequestrants; an inhibitor of intestinal cholesterol absorption (ezetimibe); PCSK9 inhibitors.</p> <ol style="list-style-type: none"> <li>3. Antihypertensive agents</li> <li>4. Antianginal drugs</li> <li>5. Antiarrhythmic drugs.</li> <li>6. Drugs to manage heart failure</li> </ol> <p>Drugs with a positive inotropic effect: Classification of inotropic agents. Pharmacodynamics, mechanism of action. Pharmacokinetic parameters. Indications. Contraindications Adverse reactions. Drug interactions.</p>
<p>Pharmacology of drugs groups. Drugs affecting hemostasis and hematopoiesis</p>	<ol style="list-style-type: none"> <li>1. Drugs affecting the blood coagulation system.</li> <li>2. Drugs affecting the hematopoietic system. Classification. Pharmacodynamics of the drug group, mechanism of action. Pharmacokinetic parameters of the drug group. Indications. Contraindications Adverse reactions. Drug interactions. Use in special categories of patients.</li> </ol>
<p>Pharmacology of drugs groups. Drugs affecting the functions of the respiratory system, digestion and metabolic processes</p>	<ol style="list-style-type: none"> <li>1. Drugs affecting the functions of the respiratory system. Beta-2-adreno-agonists, M-cholinolytics. Methylxanthines. Mast cell membrane stabilizers. Antileukotriene drugs. Inhalation GCS. Systemic GCS. Antitussive drugs. Mucolytics, mucoregulators, mucokinetics. Antitussive drugs of central action.</li> <li>2. Drugs affecting the functions of the digestive system. Antacids. H<sub>2</sub>-histamine receptor blockers. M-cholinolytics. Proton pump inhibitors. Prokinetics. Gastrocytoprotectors. Antibacterial (anti-Helicobacter) drugs in the treatment of peptic ulcer: amoxicillin, clarithromycin, tetracycline, metronidazole.</li> <li>3. Hormones of the pituitary gland, hypothalamus, pineal gland, thyroid and pancreas, hypoglycemic drugs.</li> <li>4. Steroid hormones. Sex steroids. Contraceptives. Anabolic steroids. Glucocorticoids.</li> <li>5. Drugs affecting immune processes.</li> <li>6. Antiallergic drugs.</li> </ol> <p>Classification. Pharmacodynamics of the drug group, mechanism of action. Pharmacokinetic parameters of the drug group. Indications. Contraindications Adverse reactions. Drug interaction. Use in special categories of patients.</p>
<p>Pharmacology of drugs groups. Drugs affecting the central nervous system. Drugs affecting the nociceptive system and the synthesis of pain and inflammation mediators</p>	<ol style="list-style-type: none"> <li>1. Drugs for anesthesia. Analgesics.</li> <li>2. Sedative drugs. Hypnotic agents. Anxiolytics. Antiepileptic drugs.</li> <li>3. Antipsychotics. Antidepressants. Remedies for the treatment of mania.</li> <li>4. Psychostimulants. Nootropics. Drugs for neurodegenerative diseases.</li> </ol> <p>Classification. Pharmacodynamics of the group of</p>

	drugs, mechanism of action. Pharmacokinetic parameters. Indications. Contraindications. Adverse drug reactions. Drug-drug interactions. Use in special categories of patients.
Pharmacology of drugs groups. Antibacterial, antiviral and antifungal agents	<p>1. Beta-lactam antibiotics Penicillins, cephalosporins, carbapenems and monobactams</p> <p>2. Non-beta lactam antibiotics and synthetic antimicrobials: aminoglycosides, macrolides, tetracyclines, glycopeptides, amphenicols. New groups of antibiotics: oxazolidinediones (linezolid), lipopeptides (daptomycin), glycilcyclines (tigecycline), pleuromutilins (retapamulin).</p> <p>Sulfonamides, quinolone and fluoroquinolone derivatives, 5-nitrofurans, imidazole derivatives.</p> <p>3. Antiviral, antifungal agents.</p> <p>4. Anti-tuberculosis drugs. 1st line drugs, 2nd line drugs. Tuberculosis chemotherapy regimens.</p> <p>5. Antiprotozoal, antisyphilitic, antihelminthic drugs Classification. Pharmacodynamics, spectrum of activity. Pharmacokinetics. Indications. Contraindications. Adverse drug reactions. Drug-drug interactions. Use in special categories of patients.</p>

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**COURSE DESCRIPTION**

31.05.03 Dentistry

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2023-2024

<b>Course Title</b>	Philosophy
<b>Course Workload</b>	Credits and academic hours - 3 credits (108)
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
WHAT IS PHILOSOPHY	<p>UNIT 1. The subject of philosophy, its functions, method and main divisions. The problem of practical value of philosophy: two approaches. Philosophy as a type of worldview. Philosophy and science. Philosophy and its subject. Functions of philosophy. Divisions of philosophy.</p> <p>UNIT 2. The genesis of philosophy. How a person comes to philosophy: two approaches. "Axis time" and the genesis of philosophy. The beginning of philosophy in ancient India. The beginning of philosophy in ancient China.</p> <p>UNIT 3. The beginning of philosophy in ancient Greece (from Phales to Socrates). Main studies of the first Greek philosophy. Sophists: the problem of true knowledge. Socrates: life and teaching. Socrates' ethical philosophy.</p>
PHILOSOPHICAL STUDY OF SOCIETY	<p>UNIT 4. Axiology: philosophical study of values. Axiology: what is value? Non-material, material and post-material values in Habermas' philosophy. The subjective and objective elements in the process of evaluating. The system and hierarchy of values: the organizing principles. The problem of "anomia". Morality and ethics. The purposes of morality. The four domains of ethical assessment and their evaluation terms. Utilitarian ethics: pleasure principle and teleological principle. Kantian deontological ethics: hypothetical and categorical imperatives. Religious values and the problem of reevaluation of values.</p> <p>UNIT 5. Philosophy of history. The problem of progress. Progress and regress. The criteria of social progress. Cyclic, linear and spiral models (patterns) of history. Historicism and "rhizomatic" model of history.</p> <p>UNIT 6. Theory of civilizations.</p>

	<p>The concepts of civilization. Linear civilization concept. The concept of local civilizations. Traditional (pre-industrial) civilization. Industrial civilization. Mass-culture: pros and cons. Post-industrial civilization.</p> <p>UNIT 7. Justice, legitimation and justification of a state authority.</p> <p>Justice: metaphysical and social levels. Theory of distributive justice: strict egalitarianism, resources-based principle, utilitarian principle, desert-based principle, libertarianism, differential principle. State authority: legality and legitimacy. Historical forms of legitimation of state authority and theory of social contract.</p>
<p>PHILOSOPHICAL WORLDVIEW AND METAPHYSICAL THEORIES</p>	<p>UNIT 8. Philosophical worldview of Ancient Greece and Middle Ages.</p> <p>Worldview and metaphysics. Philosophical Worldview of Ancient Greece: general principles. Metaphysical theories by Plato, Aristotle and Plotinus. Philosophical Worldview of Middle Ages: general principles.</p> <p>UNIT 9. Philosophical worldview of the Renaissance, Modern Time and specifics of contemporary worldview.</p> <p>Philosophical worldview of the Renaissance and Modern Time: general principles. Metaphysics and the foundation of contemporary science. Specific principles of contemporary worldview.</p>
<p>PHILOSOPHICAL STUDY OF KNOWLEDGE AND COGNITION</p>	<p>UNIT 10. Theories of truth and true cognition. Empirical, rational and super-rational cognition. Consciousness, knowledge and cognition. The principle of reflection. Correspondent, coherent and pragmatic theories of truth. Criteria of truth. Forms of empirical cognition: sensations, perceptions, recollections. Forms of rational cognition: concepts, judgments. Inferences: inductive, deductive and analogical.</p> <p>UNIT 11. Philosophy and the limits of cognition. Paradigms and types of scientific rationality. F. Bacon's theory of idols. Skepticism in ancient Greece. Local, global and superglobal skepticism. Kantian theory of Knowledge. The problem of "thing in itself". E. Husserl's theory of phenomenological reduction.</p> <p>UNIT 12. The study of human nature. Natural and cultural components of human being. Mundane and divine components of human being. The problem of good and evil in human nature and its political implementations. Conscious and unconscious components in human being.</p>
<p>PHILOSOPHYCAL ANTHROPOLOGY</p>	<p>UNIT 13. The problem of freedom: philosophical approach.</p> <p>Determinism and indeterminism in philosophy. Freedom and responsibility. Escape from freedom and its main mechanisms) by Erich Fromm.</p> <p>UNIT 14. The purpose of life: philosophical approach.</p>



	The problem of the meaning of life. The main vectors of the search for the purpose of life: individualism and collectivism, pragmatism and idealism, mundanism and transcendentalism.
FUTURE OF PHILOSOPHY	UNIT 15. Postmodern philosophy. The problem of authenticity. Pre-modern, modern and post-modern cultural types. Postmodernism in art, science and philosophy. Simulation and the problem of authenticity. UNIT 16. Course outcomes. General conclusions.

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**COURSE DESCRIPTION**

31.05.03 Dentistry

field of studies / speciality code and title

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2023-2024

<b>Course Title</b>	Physical Culture
<b>Course Workload</b>	Credits and academic hours – 2/72
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
<b>Module 1</b> Methodical and practical	<b>1.1.</b> Self control in physical exercising and sports <b>1.2.</b> Human physical development indicators <b>1.3.</b> Human functional statement indicators <b>1.4.</b> Physical fitness indicators <b>1.5.</b> Physical endurance indicators <b>1.6.</b> Human Psycho- physiological statement indicators <b>1.7.</b> Physical culture in production activities of bachelor and specialist

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31.05.03 Dentistry

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2023-2024

<b>Course Title</b>	Physical training
<b>Course Workload</b>	Credits and academic hours – 0/328
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
<b>Module 1</b> Methodical and practical	<b>1.1.</b> Self control in physical exercising and sports
	<b>1.2.</b> Human physical development indicators
	<b>1.3.</b> Human functional statement indicators
	<b>1.4.</b> Physical fitness indicators
	<b>1.5.</b> Physical endurance indicators
	<b>1.6.</b> Human Psycho-physiological statement indicators
	<b>1.7.</b> Physical culture in production activities of bachelor and specialist

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2023-2024

<b>Course Title</b>	Physics
<b>Course Workload</b>	Credits and academic hours – 2/72
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
Introductory lecture. Fundamentals of vector and mathematical analysis	Methods of processing of measurement results. Direct and indirect measurements. Theory of errors. Types of errors: gross, systematic, random; absolute, relative. Rules for registration of laboratory work. The order of writing the abstract. Safety at work in the physical laboratory. Basic concepts of mathematical and vector analysis. Derivatives and differentials. Rules for adding (subtracting) and multiplying vectors. Integration rules. Calculations of indefinite and definite integrals.
Mechanics. Oscillations	Introduction. Definitions (kinematics, dynamics, statics, trajectory, reference systems, equation of motion). Rectilinear motion. Circular motion. Inertia. Force of inertia. Dynamics of rotational motion. Moment of inertia. The moment of impulse and the law of its preservation. Gravitational interaction. Acceleration of gravity. Weightlessness. Harmonic vibrations. Gravitational interaction. Acceleration of gravity. Weightlessness. Longitudinal and transverse waves. Ultrasound.
Dynamics, mechanical oscillations	Work and energy. Potential field, the work of conservative forces, potential energy. Kinetic energy. The law of conservation of energy. Rotational motion of a rigid body. A moment of strength. The basic equation of the dynamics of rotational motion. The equation of motion of the angular momentum. The law of conservation of the angular momentum.

The waves. Sound wave	Mechanical waves. The plane wave equation. Parameters of vibrations and waves. Energy characteristics. The Doppler effect and its use in medicine. Sound. Types of sounds. A complex tone and its acoustic spectrum. Wave resistance. Objective (physical) and subjective (biological) characteristics of sound. Infrasound. Ultrasound, the physical basis of application in medicine
Hydrostatic. Molecular Physics	The viscosity. Methods for determining the viscosity of liquids. Stationary flow, laminar and turbulent flows. Newton's formula, Newtonian and non-Newtonian liquids. The Poiseuille formula. The Reynolds number. Features of hemodynamics in the main, resistive, capillary and venous vessels of the circulatory model. Work and warmth. The first beginning of thermodynamics. Heat capacity. An adiabatic process (Poisson's formula). The basic equation of molecular kinetic theory. The heat and motion of molecules. The first principle of thermodynamics applied to the human body. The role of nutrition and respiration. Internal energy. Internal pressure and surface tension in the fluid. Diffusion. Osmosis. Wetting Capillary phenomena.
Electricity and magnetism	Electric charges and their properties. Coulomb's law. The electrostatic field. Field strength. Power lines. Potential. Equipotential surfaces. The relationship between tension and potential. Conductors in an electrostatic field. Electrical capacity. Capacitors, their connection. The energy of the electric field. Current strength and current density. Electromotive force (EMF). of the EMF source. Ohm's law for a homogeneous, inhomogeneous section of the circuit, for a closed circuit. The Kirchhoff rules. Ohm's laws and Kirchhoff's rules for direct current. Electric and magnetic fields, currents and electromagnetic fields. The total resistance (impedance) in electrical circuits. Ohm's law for alternating current and voltage. Diathermy. UHF therapy. Microwave therapy. Physical foundations of rheography and its application in medicine.
Optics	Geometric optics. The phenomenon of total internal reflection of light. Refractometry. Fiber optics. The eye is an optical system. Microscopy. Wave optics. Electromagnetic

	<p>waves. The scale of electromagnetic waves. Energy characteristics of light fluxes: the flux of light radiation and the flux density (intensity). Diffraction grating. The resolution of optical devices and the eye. The polarization of light. Polarization microscopy. Polarimetry. The interaction of light with matter. Light scattering. Light absorption. The Booger-Lambert-Beer law.</p>
Electromagnetic radiation of the optical range	<p>Thermal radiation. Characteristics and laws of thermal radiation. The radiation of the Sun. Application of thermal radiation to determine temperature. Calculation of the radiation temperature. Lasers and their application.</p>
Atomic structure. EPR. NMR. Ionizing radiation.	<p>Atomic structure. Nuclear force. Isotopes. Electronic paramagnetic resonance. Nuclear magnetic resonance. Principles of magnetic resonance imaging. Electronpositron tomography.</p> <p>Ultraviolet radiation and its application. X-ray radiation and its use in land management. Radioactive radiation. Detection and dosimetry of ionizing radiation</p>

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**COURSE DESCRIPTION**

31.05.03 Dentistry

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2023-2024

<b>Course Title</b>	Physiotherapy of Dental Diseases
<b>Course Workload</b>	Credits and academic hours – 2/72
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
The theoretical basis of physiotherapy, physioprophylaxis. The organization of physiotherapeutic dental care.	The theoretical basis of physiotherapy, physioprophylaxis. Physiological mechanisms of physical factors. The organization of physiotherapeutic dental care. Documentation in the work of the physiotherapy room. Fundamentals of safety.
Galvanization, medicinal electrophoresis and depophoresis in dentistry.	The mechanism of physical and physiological action of direct current, therapeutic effects in the treatment of dental diseases. Galvanization, medicinal electrophoresis in dentistry Depophoresis. Trans-channel DC current. The method of conducting depophoresis.
Pulsed low and medium frequency currents and their use in dentistry.	Pulsed low and medium frequency currents. Indications and contraindications for use in dental practice. Electrical anesthesia. Electroodontodiagnostics, fluctuorization, amplipulse therapy. Techniques and methods of conducting.
High-frequency alternating current, electric and electromagnetic fields and their application in dentistry.	High frequency alternating current, electrical and electromagnetic fields, their application in dentistry. Diathermy, diathermocoagulation - physical and physiological action, therapeutic effects. Method of diathermocoagulation for pulpitis, periodontitis, granulation in the periodontal pocket.
Phototherapy. Ultrasound therapy in dentistry	Phototherapy and laser therapy in dentistry Laser therapy of dental diseases. Ultrasound therapy in dentistry. Therapeutic effects of ultrasound. Indications and contraindications for use.
Physical methods in the diagnosis and treatment of diseases of hard tooth tissues.	Physical methods in the diagnosis and treatment of diseases of the hard tissues of the tooth. Physiotherapy of periodontal diseases Physiotherapy in the treatment of diseases of the mucous membrane of the oral cavity.
The main algorithms for the use of physical factors in the treatment of various dental diseases.	Physiotherapy of inflammatory processes in the maxillary area. Physiotherapy of traumatic injuries of

	the PMO. Physiotherapy of neurostomatological diseases Physiotherapy of TMJ diseases. Physiotherapy of diseases of the salivary glands.
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**COURSE DESCRIPTION**

31.05.03 Dentistry

field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Prevention and Public Dental Health
<b>Course Workload</b>	Credits and academic hours – 7 credits (252 a.h.)
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
Basics of sanitary and anti-epidemic regime in dentistry. Providing first emergency dentist in ambulatory conditions of reception. Diagnostic methods used in dentistry. Examination of dental patient. Epidemiology of dental diseases. The prevalence and intensity of dental diseases.	The main provisions of sanitation and hygiene. System of medical care in the Russian Federation. Principles of organization of dental care, conducting medical examination of patients with dental disease. Etiology, pathogenesis, clinical manifestations and diagnosis of major dental diseases. General and local factors that cause disease of the teeth and oral cavity, preventive measures aimed at preventing the occurrence of major dental diseases.
Prevention of congenital anomalies of the maxillofacial region. Activities aimed at the preservation and promotion of health and includes the formation of a healthy lifestyle. Organization of protection of the population in the outbreak of especially dangerous infections, worsening of the radiation situation, natural disasters and other emergency situations.	Methods and caries prophylaxis of teeth, its complications, diseases of the hard tissues of origin of non-carious teeth. Methods and means of preventing periodontal diseases. Methods and tools for dental education, its goals, objectives, means and modalities of. Fundamentals of dental epidemiological survey of the population (goals, objectives, milestones, methods of registration of results). Legal aspects of the work. The structure of tissues, organs and systems in relation to their function. Anatomic - physiological characteristics of the maxillofacial region in normal and pathological conditions.
Clinical examination, as a method for monitoring the health of the population.	. Fundamentals of types and methods of disinfection and sterilization. The epidemiological situation, the basic properties of the pathogen, transmission routes, risk groups, the main clinical manifestations, methods of

	diagnosis, prevention and treatment of HIV infection, hepatitis A. Organization of work, equipment, tools, medicines, therapeutic, surgical, orthopedic offices and surgeries, dental health facilities. Modern filling materials. To be able to give the sanitary and hygienic assessment of environmental factors. Dental terminology.
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31.05.03 Dentistry

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2023-2024

<b>Course Title</b>	Psychiatry and Narcology
<b>Course Workload</b>	Credits and academic hours – 2/72
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
<b>General Psychiatry</b>	Study of psychopathological symptoms and syndromes, analysis of patients with these syndromes, independent questioning of patients under the supervision of a teacher. Symptoms of the pathology of sensory cognition. Symptoms of memory pathology. Symptoms of the pathology of rational cognition. Symptoms of the pathology of emotions. Symptoms of the pathology of the volitional sphere and attention. The main psychopathological syndromes. Personality and the main forms of its pathology. Syndromes of negative psychopathological disorders. Syndromes of organic brain damage. Syndromes of impaired consciousness. Hallucinatory delusional syndromes. Catatonic and hebephrenic syndromes. Affective syndromes. Neurotic syndromes.
<b>Private Psychiatry and Narcology</b>	Study of major mental illnesses. Organic and symptomatic mental disorders. Dementia and mild cognitive impairment. Mental disorders due to brain injury. Mental disorders in vascular diseases of the brain and neuroinfections. Epilepsy. mental and behavioral disorders due to the use of drugs and psychoactive substances. Schizophrenia, schizotypal and delusional disorders. Schizophrenia, schizo affective and schizotypal disorders. Acute and chronic delusional disorders. Affective disorders. Bipolar disorder. Recurrent depressive disorder. Dysthymia and cyclothymia. Neurotic and stress-related disorders. The concept of psychogenic disorders. Anxiety disorders. Dissociative and conversion disorders. Somatoform disorders. Other neurotic disorders. Behavioral syndromes associated with physiological disorders and physical factors. Personality disorders. Mental retardation (mental retardation). Disorders of psychological development. Conversation with patients. Writing a medical history.
<b>Treatment of mental disorders</b>	Study of the main psychopharmacological groups, acquaintance with the mechanisms of their action, side effects and the method of their correction. Treatment regimens for major diseases, emergency care in psychiatry. Methods for the treatment of mental illness. Psychotropic

	<p>drugs. Psychotherapy: definition, basic methods of psychotherapy. Antipsychotics: definition, classification, spectrum of psychotropic action of antipsychotics. The main groups of antipsychotics, side effects. Tranquilizers. Definition, classification, spectrum of psychotropic action, side effects. Major tranquilizers. Complications and side effects of tranquilizer treatment. Antidepressants: Definition, Classification. Complications and side effects of antidepressant treatment. The main groups of antidepressants. The spectrum of action of antidepressants. Nootropics: definition, spectrum of action, main nootropics, side effects of nootropics. Psychostimulants, normotimics: definitions, action spectra, side effects and complications. The main groups of anticonvulsants. Side effects and complications of anticonvulsant treatment.</p>
<p><b>Medical psychology</b></p>	<p>The main mental processes and their features in various pathologies. Methods of pathopsychology. Tasks and goals of the work of a medical psychologist in the clinic of internal diseases, in a psychiatric clinic. Methods of pathopsychological research. Methods and types of psychological psychotherapy. Features of mental activity in organic diseases of the brain. Features of memory in organic brain diseases. Features of thinking in schizophrenia. Features of the emotional sphere and thinking in personality disorders. Features of the work of a psychologist with a cancer patient. Features of mental performance in patients with eating disorders. Features of thinking, emotions and memory in patients with epilepsy. Method of memorizing 10 words. The "Pictogram" technique. Methodology "Classification of objects". Features and purposes of using psychometric scales in the clinic of internal medicine and in a psychiatric clinic. Methodology "Excluding unnecessary". Writing coursework and medical history.</p>

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**COURSE DESCRIPTION**

31.05.03 Dentistry

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2023-2024

<b>Course Title</b>	Psychology, Pedagogy
<b>Course Workload</b>	Credits and academic hours – 2/72
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
Introduction to Psychology	History of Psychology. The subject and methods of psychology. Branches of psychology. Categories of psychology. Functions of the psyche. Basic mental processes
Development of the psyche. Zoo psychology	Zoo psychology from ancient times to the creation of the first evolutionary doctrine. The main methods of zoo psychological research. The importance of zoo psychology in medicine
Sensation. Perception. Attention	Cognitive mental processes in the cognition of reality. Perception of objects, time of relations between objects of space, a person. Attention. Types of attention
Memory	Memory and its significance. Types of memory Basic memory processes and mechanisms. Individual features of memory. Typological features of memory. The importance of memory for human life
Thought process. Speech. Imagination	Development of thinking in ontogeny. Laws of logic and thinking. Thinking disorders. Pathopsychological and clinical classification of thinking disorders. Kinds of imagination. Pathological forms of imagination. Types and functions of speech. The ratio of thinking and speech. Speech disorders
Will	Will. The concept of the will. Volitional acts. Functions of the will. The development of the will in a person. Strong-willed personality traits
Emotions	The concept and classification of emotions. The James-Lange Theory. Emotions generated by the social environment. The role of emotions in the mental organization of a person
Personality. Motivation	The concept of personality in various psychological approaches. Personality structure. Levels, rules and ways of constructing psychological characteristics of personality. Analysis of general concepts about the

	orientation of the personality. Classification of needs in the orientation of the individual. Classification of motives in the orientation of the personality. Determination of the forms of orientation of the personality
Temperament. Character. Abilities. Intelligence	Types of temperament and their psychological characteristics. The role of temperament in activity. Character. Classification of character traits. Character types. Accentuation of character. Determination of abilities. Types of abilities. Structure of abilities. Ability levels. Talent. Inclinations and abilities. Inclination
Communication. Ethics. Deontology in Medicine. Clinical aspects of communication	Relationship levels: doctor - patient; doctor - nurse; doctor - doctor; nurse - patient; nurse - nurse; Doctor - Administration; doctor - junior medical staff

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**COURSE DESCRIPTION**

**31.05.03 Dentistry**

field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Public Health and Healthcare
<b>Course Workload</b>	Credits and academic hours - 2 credits (72 academic hours)
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
Module 1. Methods of analysis and assessment of public health.	Public health and health care as a science and subject of teaching. Research aimed at studying public health. Stages of medical/public health research. Evaluation of public health and the results of medical/public health research using statistical methods. Public health assessment. Analysis and assessment of morbidity and disability of the population. Medical and social aspects of demography. Demography. Mechanical movement of the population. The natural movement of the population.
Module 2. Management and organization of the work of medical institutions. Organization of the activities of the dental service.	Theoretical foundations and principles of healthcare organization. Organization of outpatient and inpatient care. Basic principles of organization of dental care to the population. Organization of the work of the dental clinic. Maternal and child health care system. Organization of dental care for children. Features of the organization of medical (including dental) care for the rural population. Fundamentals of economics, planning and financing of the dental service. Automated information systems in the management of healthcare institutions.
Module 3. Modern problems of maintaining health, disease prevention.	Modern problems of disease prevention and public health promotion. Participation of public organizations in the protection of public health. Family as an object of medical and social research and primary health care.

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**COURSE DESCRIPTION**

31.05.03 Dentistry

field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Radiodiagnosis
<b>Course Workload</b>	Credits and academic hours – 3/108
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
The prevalence of cancer in Russia and in the world. Position dental oncological diseases in general dental oncology structure. Dental oncology: historical milestones and current status of the issue.	Morbidity and its tendency for major groups: oncology, dental oncology. Tumor. The symptoms of benign and malignant tumors in dentistry. Oncological alertness dentist. Dentist - a doctor of the first level in the diagnosis of cancer patients. The concept of "tumor". evidence benign and malignant tumors in dentistry. modern representation of the biological entity tumors. Predisposing factors of malignant tumors maxillofacial area.
Oncology in the practice of the doctor - dentist. Early diagnosis of squamous cell carcinoma oropharyngeal: principles, methods, effectiveness. Practical part: fence material for morphological studies.	The role of a dentist who owns Oncologic vigilance, as the "first contact" a doctor in detection and treatment of cancer patients. Dental Background of malignant tumors of the oral cavity, head and neck. General manual skills and securing the fence on the biological material from the mouth for morphological studies.
The role and place of a dentist in the antitumor treatment of cancer and dental oncological patients. Dental support of cancer patients in the clinic.	Interdisciplinary cooperation of a dentist and radiologist, oncologist on joint management of cancer patients. Features interventions in the mouth in patients receiving radiotherapy and chemotherapy at various stages of treatment.
Principles of combination therapy dental oncological patients.	Types of radiation treatment of cancer patients. Conformal radiotherapy in advanced treatment programs oropharyngeal tumors. Forms of chemotherapeutic treatment of cancer patients. Types of surgical treatment of patients with cancer. The combined antitumor treatment: indications and



	contraindications.
Types of complications arising in the mouth during the combined antitumor treatment. Xerostomia, dizgevtziya, mucositis, nutritional deficiency, osteonecrosis, diagnostics, principles of treatment, prognosis.	The joint work of a doctor - dentist and doctor - radiologist, the oncologist for the treatment of combined treatment of complications. Optimization of approaches to the treatment of oral lesions in patients receiving combination therapy. Oral mucositis. Classification. Prevention and treatment of mucositis. Xerostomia and factors aggravating its course. Preparations of plant-based sustained-release in patients receiving radiotherapy and \ or chemotherapy. Nutritional support role in the treatment and prevention of oral mucositis with chemoradiotherapy. Substitution therapy in patients with the syndrome of "dry mouth" Dental lasers: applications and how they differ from traditional methods. Prevention of osteonecrosis of the jaw during surgical rehabilitation oral cavity in patients with malignant neoplasm different localization. ray method sin the diagnosis of osteonecrosis of various origins Clinical and radiological features of osteonecrosis of the jaw of various origins (beam, a bisphosphonate) in patients with malignant tumors.
Rehabilitation of cancer patients after combined treatment. Features denture cancer patients at the present stage.	Types of rehabilitation of cancer patients (local, general, anatomical and physiological, psycho-emotional, social). dental rehabilitation time frame depending the extent of intervention. The role of the doctor - dentist in charge of cancer patients with defects in the maxillofacial area. Ectoprostheses, implants, dentures complex.

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**COURSE DESCRIPTION**

31.05.03 Dentistry

field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Russian as foreign language
<b>Course Workload</b>	Credits and academic hours – 3/216
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
<b>Theme 1.</b> The structure of an object	<p>Identification of components of an object Complete set of components: complete/ incomplete set of components.</p> <p>Presence / absence of a component (components) in the structure of an object; Quantitative characteristics of components of an object.</p> <p>Localization of components in an object; place of a component in an object; mode of localization of a component in an object; arrangement of components in an object; connection of components in an object</p> <p>Qualitative and quantitative composition of the object.</p>
<b>Theme 2.</b> Qualitative and quantitative characteristics, properties of the object	<p>The shape, relief of the surface of the object: the shape of the object; surface's relief of the object.</p> <p>The consistency, properties, color, taste, smell of an object: the color of an object; the taste and smell of the object; object consistency, object properties.</p> <p>Quantitative characteristics of the object: the exact size of the object; fluctuations in the size of the object; maximum object size.</p>
<b>Theme 3.</b> The function of the object	<p>Function of the object. The essence of the function.</p>

	Conditionality of the function of the object.
<b>Theme 4.</b> Classification of objects	Classes of objects. Characteristic of classification and classes of objects. Members of object's class.
<b>Theme 5.</b> General characteristics of the object	Structure of a microorganism. Localization of a biological object. Mode of nutrition of an organism. Mode of reproduction of an organism.
<b>Theme 6.</b> Development (life-cycle) of a biological object	Host of a parasitic microorganism. Stages of life-cycle / development of a microorganism. Processes of a stage of a life-cycle.
<b>Theme 7.</b> General characteristic of a disease caused by pathogenic microorganism	Identification of a disease caused by pathogenic microorganism. Area of the disease activity. Ways and conditions of infecting. Symptoms and signs of a disease. Clinical outcome. Disease prevention.

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**COURSE DESCRIPTION**

31.05.03 Dentistry

field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Russian Language (Professional Level)
<b>Course Workload</b>	Credits and academic hours – 2/72
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
<b>Theme 1.</b> General characteristic of a physiological process	Definition of a process. Classification of processes. Essence of a process. Stages of a process.
<b>Theme 2.</b> Main mechanisms of a process	Alteration of qualitative and quantitative characteristics of an object. Appearance (birth) and disappearance (destruction, death) of a new object. Change of localization of an object (movement).
<b>Theme 3.</b> Alteration dynamics of process	Alteration in the intensity of the process. Violation and termination of the process.
<b>Theme 4.</b> Role of the physiological process	The significance of the process. The characteristic of the benefit / harm of the physiological process for the organism.

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31.05.03 Dentistry

field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Russian Language and Speech Culture
<b>Course Workload</b>	Credits and academic hours – 3/108
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
<b>CULTURE OF ACADEMIC AND SCIENTIFIC COMMUNICATION</b>	Russian language and speech. A culture of speech. Types of communication: academic, scientific etc. The basic concepts of the course. Literary language, literary and linguistic norm. Types of norms. Speech and its characteristics. Speech influence. The methods of persuasion. The basic norms and rules of non-verbal and verbal etiquette.
<b>CULTURE OF PROFESSIONAL COMMUNICATION</b>	Professional communication: the essence, features, innovative technology tools. Communicative portrait of a specialist. Oral professional communication: general concept, the basic communication forms and signs. Written speech of a doctor. Innovative informational and communicative technologies of a professional interaction. Tolerant intercultural professional communication: the basic principles and strategies.

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**COURSE DESCRIPTION**

31.05.03 Dentistry

field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Russian language for foreign students
<b>Course Workload</b>	Credits and academic hours – 20/720
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
Theme 1. Etiology of stomatological disease (pathological state)	Connection between a factor and a pathological condition; the possibility of communication between the factor and the occurrence of a pathological state. The cause of the pathological state; the condition of the pathological state's appearance.
Theme 2. The development of dental disease (pathological state)	Dynamics of the pathological process. The object's change of the size, color and shape; treatment and destruction of an object. Process violation; the relationship between processes and phenomena; the nature of the impact of the processes; proportional change
Theme 3. Clinical picture of dental disease	Subjective complaints of the patient; objective data on the clinical manifestations of the disease; clinical manifestations identified using instrumental methods of examination.
Theme 1. Methods of examination of the patient with dental problems	Purpose of the examination method; the object of study; the means (instrument) with which the examination is carried out; the value of the survey method.
Theme 2. Dental disease treatment methods	Essence of the method of treatment; the purpose of the treatment method; scope of treatment method.

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**COURSE DESCRIPTION**

31.05.03 Dentistry

field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Science of Dental Materials
<b>Course Workload</b>	Credits and academic hours - 4/144
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
1.Module Materials science in prosthetic dentistry	Topic 1.1. Dental materials science as a practical science of materials used in the work of a dentist. Classification and physicochemical properties of materials used in dentistry. Basic dental materials, metals, ceramics, and polymers and their physical and chemical properties.
	Topic 1.2. Basic and auxiliary materials in prosthetic dentistry. Dental impression materials. Classification, composition, physicochemical properties. Requirements. Standard impression spoons.
	Topic 1.3. Gypsum, physicochemical properties, composition. Standardization according to GOST (microscopy (alpha, beta)). Method of working. Features of hardening with inhibitors and catalysts.
	Topic 1.4. Dental wax. Requirements, classification, physicochemical properties, composition. Standardization according to GOST.
	Topic 1.5. Polymeric materials, their use in dentistry, classification, physicochemical properties, composition. The technology of work with plastic, safety.
	Topic 1.6. Metals and alloys used in prosthetic dentistry. Classification, physicochemical properties.
	Topic 1.7. Dental porcelain. Ceramics. Classification, physicochemical properties, composition. Application in dentistry.
	Topic 1.8. Colloquium 1.

2.Module Materials science in Conservative dentistry.	Topic 2. 1. Classification of materials used in restorative dentistry. Classification of filling materials, quality standards, physicochemical and biological properties, composition. Requirements for filling material.Mineral cement, materials used for temporary fillings and liners, physicochemical properties. Methods of preparation.
	Topic 2.2. Classification of mineral cement, physicochemical properties. Methods of preparation.
	Topic 2.3. Classification of polymer cement, Physicochemical properties. Methods of preparation.
	Topic 2.4. Chemical and light cured composite filling materials. Classification, physicochemical properties, composition.
	Topic 2.5. Adhesive system (generations of adhesive systems). physicochemical properties and composition.
	Topic 2.6. Metals and their alloys used for dental fillings. Classification, physicochemical properties, composition. Method of amalgam preparation. Safety and hygiene requirements when working with amalgam.
	Topic 2.7. Root canal filling materials. Classification of sealer and fillers, indication for use.
3.Module Materials science in surgical dentistry.	Topic 3.1. Materials in surgical dentistry. Materials for surgical sutures. Surgical needles. Requirements. Dental implants, materials used to manufacture them.
	Topic 3.2. Colloquium 2.
	Topic 3.3. Final colloquium.
	<i>Total: 18 lessons (1 course - 2 semester).</i>

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**COURSE DESCRIPTION**

31.05.03 Dentistry

field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Surgical diseases
<b>Course Workload</b>	Credits and academic hours – 3/108
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
Particular issues of surgery	<p>1. Appendicitis. Acute appendicitis. Clinic. Diagnostics. Treatment. Complications of appendicitis. Clinic. Diagnostics. Treatment. Chronic appendicitis. Clinic. Differential diagnosis. Indications for surgery.</p> <p>2. Hernias. The General notion about hernias. Types of hernias. Inguinal hernia. Congenital inguinal hernias. Femoral hernias. Umbilical and hernia of the white line of the abdomen. Anatomy. Differential diagnosis Clinic. Surgical treatment. Strangulated hernia. Views. Clinic. Diagnostics. Treatment. Clinic, diagnosis. Features of operational equipment.</p> <p>3. Bowel disease. Crohn disease. Ulcerative colitis. Clinic. Diagnostics. Treatment. Complications. Diverticulosis of the large intestine. Complications. Diagnostics. Treatment. Colon cancer. Clinic. Diagnostics. Treatment.</p> <p>4. Breast disease. Benign breast tumors. Views. Method of treatment. Breast cancer. Classification. Clinic. Diagnosis, treatment.</p> <p>5. Liver disease. Liver cancer. Views. Diagnostic method. Treatment. Portal hypertension syndrome. Cirrhosis. Diagnostics. Complications. Clinic. Treatment. Echinococcus of the liver. Species. Diagnosis. Treatment.</p>

6. Diseases of the stomach and duodenum. Gastric and duodenal ulcer. Conservative therapy. Indications for surgical treatment. Methods of surgical treatment. Complications of duodenal ulcer. Clinic. Diagnostics. Treatment. Stomach cancer. Classification. Clinic. Diagnostics. Type of operation. Cancer of papilla Vateri. Clinic. Diagnostics. Treatment.

7. Diseases of the rectum. Hemorrhoids. Complications. Diagnostics. Treatment. Benign tumors of the rectum. Clinic. Diagnostics. Treatment. Rectal cancer. Diagnostics. Treatment.

8. Vascular disease. Varicose disease. Diagnostics. Clinic, complications. Treatment. Atherosclerosis of vessels of the lower extremities. Clinic. Diagnostics. Treatment. Complications. Differential diagnosis of atherosclerosis and obliterating endarteritis of the lower extremities.

9. Thyroid disease. Thyrotoxic goiter. Clinic. Diagnostics. Treatment. Graves' disease. Clinic. Diagnostics. Treatment. Endemic goiter. Classification, diagnosis. Treatment, prevention. Complications of thyroid surgery.

10. Calculous cholecystitis. Acute cholecystitis. Clinic. Diagnostics. Treatment. Complications of cholecystitis. Chronic cholecystitis. Clinic. Diagnostics. Treatment. Type of operation.

11. Intestinal obstruction. Classification. Clinic. Methods of conservative and surgical treatment. Mechanical and dynamic intestinal obstruction. Classification. Reasons. Views. Clinic. Diagnostics. Treatment.

12. Mechanical jaundice. Reasons. Diagnostic method. Treatment.

13. Pancreatitis. Acute pancreatitis. Classification. Clinic. Diagnostics. Treatment. Complications. Chronic pancreatitis. Classification. Clinic. Methods of diagnosis and surgical treatment.

	<p>14. Peritonitis. Classification. Etiopathogenesis. Clinic. Treatment. Ways to reduce mortality.</p> <p>15. Special research methods. Methods of endoscopic diagnosis of diseases of the digestive system. Modern methods of early diagnosis of tumors of the digestive tract. X-ray contrast methods for the study of bile ducts.</p>
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**COURSE DESCRIPTION**

31.05.03 Dentistry

field of studies / speciality code and title

2023-2024

<b>Course Title</b>	Telemedicine
<b>Course Workload</b>	Credits and academic hours – 1/72
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
Section 1 Introduction to telemedicine	Topic 1.1 Basic term. the goals of telemedicine today
	Topic 1.2 The telemedicine as a new form of healthcare organization
Section 2 Technological equipment of telemedicine activities.	Topic 2.1 Practical experience of leading telemedicine centers.
	Topic 2.2 An encoding and decoding information standards
Section 3 Scenarios of telemedicine activities	Topic 3.1 Ethical and deontological aspects of telemedicine
	Topic 3.2 Hardware and software of telemedicine

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**COURSE DESCRIPTION**

**31.05.03 Dentistry**

field of studies / speciality code and title

**2023-2024**

<b>Course Title</b>	Cone Beam Computed Tomography in the Diagnosis Planning and Evaluation of the Effectiveness of Dental Solutions
<b>Course Workload</b>	Credits and academic hours - <b>2 (72 hr.)</b>
<b>Course contents</b>	
<b>Course Module Title</b>	<b>Brief Description of the Module Content</b>
Cone beam computed tomography in the practice of a dentist	Radiation methods for examining dental patients: Basic examination methods in dentistry Additional examination methods in dentistry: dental radiography and orthopantomography Additional examination methods in dentistry: cone beam computed tomography Main advantages and disadvantages of each method
Radiation safety during CBCT. Errors and shortcomings of CT, ways to eliminate them	Issues of radiation safety. SanPin norms. Rules for conducting radiological examination methods Risk groups during research (pregnant women and children) Objective and subjective errors of computed tomography. Artifact concept. Types of artifacts, ways to eliminate them.
X-ray anatomy according to CBCT	Visualization of important anatomical structures of the maxilla and mandible for dental treatment planning Determination of types of bone density according to CT data
X-ray semiotics according to CBCT data at the therapeutic and periodontal reception	Diagnosis of caries and its complications. Evaluation of the canal-root system of teeth according to CBCT. Malformations and features Diagnosis of complications of endodontic treatment X-ray picture of apical periodontitis The structure of the periodontium. Determination of bone pockets and lesions of the furcation zone according to CBCT data.
X-ray semiotics according to CBCT data at surgical and ENT appointments	Diagnosis of anomalies of teeth and jaws.

	<p>Visualization principles          Planning of dental implantation. Isolation of the mandibular canal according to CBCT data          Determining the volume of bone tissue in matters of bone augmentation</p> <p>CB pathology and normal structure of the paranasal sinuses according to cone beam computed tomography</p>
<p>X-ray manifestations of osteomyelitis of various origins.</p>	<p>The concept of osteomyelitis. Classification, types of osteomyelitis. Acute, primary chronic and secondary chronic osteomyelitis of the jaws. Osteoradionecrosis and drug-induced necrosis of the jaws</p> <p>Osteomyelitis of drug addicts. Features of the x-ray picture.</p>

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