

## *Summary of the working program of the academic discipline*

### «Maxillofacial surgery»

General Educational Program of higher education (specialist's degree programs )

31.05.03 Stomatology

Department: oral and maxillofacial surgery

**1. The purpose of mastering the discipline:** participation in the formation of the competencies of OK 1, OPK 6, PC 5, PC 6, PC 8, PC 9.

**2. Position of the academic discipline in the structure of the General Educational Program (GEP).**

**2.1.** The discipline «Maxillofacial Surgery» refers to the core part «Disciplines» of Block 1 of GEP HE «Dentistry».

The discipline «Maxillofacial Surgery» is taught in 7, 8, 9 semester of study.

**2.2.** The following knowledge, skills and abilities formed by previous academic disciplines are required for mastering the discipline:

1. Normal human anatomy;
2. Pathological anatomy;
3. Physiology;
4. Pathophysiology;
5. Pharmacology;
6. Biochemistry;
7. Topographic anatomy and operative surgery;
8. Microbiology;
9. Histology;
10. Radiology;
11. Propaedeutic dentistry;
12. Oral surgery;
13. Therapeutic dentistry.

**2.3.** Mastering the discipline is required for forming the following knowledge, skills and abilities for subsequent academic disciplines:

1. Pediatric dentistry (section maxillofacial surgery).

### **3. Deliverables of mastering the academic discipline and metrics of competence acquisition**

Mastering the discipline aims at acquiring the following universal (UC) or/and general professional (GPC) or/and professional (PC) competencies

n /	Competence code	The content of the competence (or its part)	Code and name of the competence acquisition metric	As a result of mastering the discipline, the students should:		
				Know	Be Able to	Possess
	UC-1	the Ability to abstract thinking, analysis, synthesis		methods and techniques of philosophical analysis; the search and processing of information	competently and independently-but to analyze and assess the situation; use	to possess the skills of presentation of an independent perspective, analysis and logical thinking

					educational, scientific, popular scientific literature, and the Internet on a given topic with the preparation of the notes	
	GPC-6	Willingness to medical records		maintenance of standard accounting and reporting of medical records in medical organizations dental profile; indications for hospitalization of patients	to conduct medical documentation of a different nature in stomatological outpatient clinics;	medical practices of accounting and reporting documentation in medical institutions
	PC-5	is ready for collection and analysis of patient's complaints, the data of its history, physical examination, laboratory, instrumental, pathological-anatomical and other studies in order to determine the state or of ascertaining the presence or absence of dental disease		and in obtaining informed consent from the patient for diagnostic procedure	to collect a complete medical history of the patient, including information on the status of oral and dental	methods in common clinical-korobke-ment of patients; the assessment of dental health

				<p>on the ability and willingness to conduct and interpret a survey, physical examination, clinical examination, the results of modern laboratory and instrumental studies, morphological analysis of biopsy, surgical material, write a medical card inpatient and outpatient patient</p>	<p>requirements and rules in obtaining informed consent from the patient for diagnostic procedures; to gather a complete medical history, conduct a survey of the patient; to carry out a physical examination (inspection, palpation, of auscultation, measurement of blood pressure, pulse, respiratory rate), send it to the laboratory-instrumentale examination, a consultation of experts; to interpret the results of the survey; to evaluate the results of ultrasound diagnostics in dentistry</p>	<p>Clinical methods of examination of FACE; interpretation of results of laboratory and instrumental examination of adults; the technique of reading radiographs</p>
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	PC-6	Ability to determine in patients the main pathological conditions, symptoms, syndromes of dental diseases, nosological forms in accordance with the International statistical classification of diseases and related health (X view)		etiology, pathogenesis, diagnosis, treatment of the most common diseases To determine the presence of fractures of the teeth and bones of the face, dislocation of the tooth and h/jaw on the radiograph; perform low-traumatic surgical intervention in patients of any age		by reading various types of radiographs, manual skills in operative dentistry, methods of conducting and infiltration anesthesia, principles
				principles of the International Statistical Classification of Diseases	substantiate the diagnosis taking into account the principles of the International Statistical Classification of Diseases	make a diagnosis based on the principles of the International Statistical Classification of Diseases

				<p>of the International Statistical Classification of diseases justify the diagnosis taking into account the principles of the International Statistical Classification of Diseases make a diagnosis taking into account the principles of the International Statistical Classification of Diseases etiology, pathogenesis, diagnosis, treatment and prevention of the most common surgical stomatological diseases, features of the clinical course of odontogenic inflammatory diseases of the maxillofacial region and methods of their treatment; features of the clinical course of non-odontogenic inflammatory diseases of the maxillofacial region and methods of their treatment; specific infectious diseases (syphilis, tuberculosis, actinomycosis)</p>	<p>should be carried out in dental patients diagnostics of surgical diseases of the oral cavity, to reduce a dislocation of the temporomandibular joint; to identify clinical signs of acute and chronic traumatic facial pain somatic, neurogenic and psychogenic origin</p>	<p>of the clinical methods of examination of the maxillofacial region; algorithm preliminary diagnosis, final diagnosis,</p>
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	PC-8	Ability to determine the tactics of management of patients with various dental diseases,		methods of implementation of urgent actions and indications for hospitalization; the methods of providing aid for burns, cold and electric shock	to Determine condition that requires emergency dental and medical care, beyond the competence of the General dentist and immediately consult appropriate professionals	the Techniques of first aid for injuries of the maxillofacial region
	PC-9	Willingness to managing and treating patients with dental diseases in outpatient and day hospital		the role of sedation and sedation for dental procedures in adults	to provide VAT display-tion to conduct pre-medication and sedation in the dental-ical patients with surgical weight loss technology-who profile	the Methods of infiltration and conduction anesthesia in the oral cavity for surgical intervention
				to Interpret the results of the survey make a preliminary diagnosis		

				clinical manifestations of major syndromes requiring surgical treatment; types and methods of modern anesthesia	to spend less traumatic surgical intervention in patients of any age, including the removal of the tooth and root, a small surgery on the soft tissues; to perform an autopsy, processing and drainage of subperiosteal abscess; to reduce a dislocation of the temporomandibular joint	chiropractic skills in operative dentistry; methods of infiltra-Lannoy and conduction anesthesia in the oral cavity for the holding of the cles of cirurgicas of treatment; conduct a simple tooth extractions and less traumatic surgical weight loss technology-wide solution; stop bleeding after tooth extraction
				indications and contraindications for dental implant installation methods osteointegrated implants, dental prosthetics on implants.	Interpretation of the results of instrumental methods of diagnostics	Manual skills in the operative dentistry; methods of diagnosis and treatment of deformities and defects of the dentition

#### 4. Volume of the academic discipline and types of academic work

Total labor intensity of the discipline is \_\_\_\_ CU (\_\_\_\_AH)

Type of educational work	Labor intensity		Labor intensity (AH) in semesters		
	volume in credit units (CU)	volume in academic hours (AH)	Semesters		
			7	8	9
<b>Classroom work, including</b>	<b>6.61</b>	<b>238</b>	<b>44</b>	<b>64</b>	<b>130</b>
Lectures (L)	1.39	50	12	14	24
Laboratory practicum (LP)*					
Practical (P)					

Clinical Practice Sessions (CPS)	5,22	188	32	50	106
Seminars (S)					
<b>Student's individual work. (SIW)</b>	<b>4,39</b>	<b>158</b>	<b>28</b>	<b>44</b>	<b>86</b>
Student's research work					
Intermediate certification					
<i>Exam</i>	1	36			Exam
<b>TOTAL LABOR</b>	<b>INTENSITY</b> <b>12</b>	<b>432</b>	<b>72</b>	<b>108</b>	<b>216</b>

### 5. Sections of the academic discipline and competencies that are formed

n /	Compe tence code	Section name of the discipline	The content of the section in teaching units
1.	of the militar y- indust rial compl ex 6 PC 5 PC 6 PC 8 PC 9	Abscesses and phlegmons of the face and neck. Classification, etiology, and pathogenesis. Clinical picture. Diagnostics. General principles of treatment. Abscesses located in the oral cavity.	Abscess and phlegmon of the mouth, face and neck. Etiology and pathogenesis. Classification. Surgical anatomy of the interfascial and intermuscular cellular spaces of the head and neck. Ways of infection penetration and spread in soft tissues. General clinical characteristics of abscesses and phlegmon of the parotid and adjacent areas. Topical and differential diagnostics. Principles of complex treatment planning. Surgical treatment. Features of surgical treatment: abscess of the maxillofacial groove, infratemporal fossa, pterygoid-mandibular, parapharyngeal spaces and tongue The role of antibiotic therapy, detoxification, use of medications, immunotherapy, physical methods of treatment as ways to solve the problem of pathogenetic therapy of patients with odontogenic abscess, phlegmon. Principles of intensive care. Value for selecting online access. Anesthesia for surgical procedures for abscesses and phlegmon of the face and neck.
2.	GPC 6 PC 5 PC 6 PC 8 PC 9	Complications of odontogenic inflammatory diseases of the face.	Mediastinit. Odontogenic sepsis. Phlebitis and thrombophlebitis of the maxillofacial region. Etiology, pathogenesis, clinic, diagnosis and treatment. Thrombosis of the cavernous sinus.
3.	GPC 6 PC 5 PC 6 PC 8 PC 9	Non-gunshot trauma	Classification of non-gunshot facial trauma, its cause, frequency. Principles of providing assistance to victims with facial injuries. The concept of first aid, pre-medical, qualified and specialized care. Mechanism of non-gunshot facial injuries. Methods of examination of victims: clinical, instrumental. Damage to the soft tissues of the face. Dislocations and fractures of teeth, fracture of the alveolar process of the upper jaw and the alveolar part of the lower jaw. Clinic, diagnosis, and treatment. Dislocations of the lower jaw. Classification, clinic, diagnosis, and treatment.



			<p>Statistics of fractures of facial bones: lower and upper jaws, zygomatic bones, and nose bones. The frequency and nature of the fracture, its localization depending on the cause and mechanism of injury, anatomical features of the structure of the bones of the face. Classification of non-gunshot fractures of the lower and upper jaws. Localization of fractures in "typical" places, their types. Clinical signs of mandibular and maxillary fractures, depending on their location. Mechanisms of displacement of fragments, their nature.</p> <p>Tactics of the doctor in relation to the tooth located in the fracture gap. Basic principles of treatment of patients with facial bone fractures: reposition, immobilization, medical and physical therapy. Treatment of patients with fractures of the lower and upper jaws. Ways to reposition fragments. Types of temporary (transport) immobilization. Their varieties: various types of bandages, standard bandage for transport immobilization, soft sling – like dressing Pomerantseva-Urban, various types of inter-maxillary ligature fastening. Indications for applying temporary immobilization methods, advantages of various methods.</p> <p>Therapeutic (permanent) methods of immobilization: conservative extra-laboratory and laboratory (orthopedic), surgical methods of fixing fragments. Indications and contraindications for the use of specific immobilization methods.</p> <p>Technique, method of manufacturing and applying dental splints. Indications for the use of orthopedic splints and laboratory-made devices in the historical aspect. Methods of osteosynthesis: bone suture, Kirschner's needle, bone plates, etc. Classification of extra-oral devices, their functional capabilities.</p> <p>Fractures of the zygomatic bone and arch, fractures of the nasal bones. Classification. Clinical signs, indications for reposition, methods of reduction of fragments and treatment. Features of management of patients in the postoperative period.</p> <p>Combined none-gunshot injury of the maxillofacial region. Traumatic brain injury. Features of the clinical course and provision of specialized care to patients with concomitant trauma. Mutual burden syndrome. Uncomplicated reparative osteogenesis, its stages. Sources of reparative osteogenesis. Step-by-step regulation of reparative osteogenesis. Complications of jaw fractures: traumatic osteomyelitis, traumatic sinusitis, delayed consolidation of fragments, "false joint", consolidation in the wrong position, dacryocystitis. Causes, treatment, and prevention.</p> <p>Clinic of thermal injuries (burns, frostbite, electric shock, electromagnetic field) of the face.</p>
4.	UC 1 GPC 6 PC 5 PC 6 PC 8 PC 9	Gunshot trauma	<p>A brief history of the development of military maxillofacial surgery and traumatology. Subject and tasks of military dentistry in modern conditions. General characteristics, classification, clinical picture of gunshot wounds of the face and treatment of the wounded and injured. Clinical picture of various complications. Outcomes of gunshot wounds to the face. Measures to prevent complications and treat the wounded with</p>

			<p>these complications. Prolonged compression syndrome.</p> <p>Combined and combined facial lesions. Treatment of victims with these lesions. Basic principles of organization of stage-by-stage treatment of the injured and wounded in the face, the volume and procedure for providing assistance to this contingent of military personnel at the pre-hospital stages of medical evacuation. Modern principles, forces and means, procedure for rendering and maintenance of specialized medical care to the injured and wounded in the face at the hospital stages of medical evacuation. Basic principles and organization of rehabilitation of military personnel with injuries, diseases and wounds of the face. General provisions on medical examination of military personnel. Military medical expertise in dentistry, military maxillofacial surgery and traumatology.</p>
5.	<p>UC 1 GPC 6 PC 5 PC 6 PC 8</p>	<p>Contracture of the lower jaw</p> <p>Ankylosis of the temporomandibular joint</p>	<p>Causes and types of contractures (scars of the oral mucosa, muscles, skin, bone contracture). Prevention, methods of conservative and surgical treatment. Dissection and excision of scars, closure of defects, physical therapy and physical therapy.</p> <p>Etiology, pathogenesis, clinical manifestations. Mandibular mobility studies, X-ray diagnostics. Deformity of the lower jaw in ankylosis that develops during the growth period. Prevention and treatment of ankylosis. Basic methods of operations. Measures aimed at preventing relapse. Elimination of facial deformity in the treatment of ankylosis.</p> <p>Differential diagnosis of various types of persistent jaw reduction.</p>
6.	<p>UC 1 GPC 6 PC 5 PC 6 PC 8 PC 9</p>	<p>Reconstructive surgery of the face</p> <p>Application of implants in maxillofacial surgery</p> <p>Bone grafting of the jaws.</p>	<p>Tasks of reconstructive surgery of the maxillofacial region. Types of facial defects and deformities, causes of their occurrence.</p> <p>Birth defects, developmental anomalies, deformities associated with impaired growth of various areas of the face.</p> <p>Defects and deformities of the maxillofacial region as a result of injuries, gunshot wounds, burns, and inflammatory diseases. Defects after removal of tumors of the face and oral organs.</p> <p>Defect analysis, assessment of anatomical, functional and aesthetic disorders. Development of a treatment plan.</p> <p>Basic methods of plastic surgery.</p> <p>Application of materials (biocomposites) in facial reconstructive surgery.</p> <p>Contour plastic surgery to correct the external contours of the face in case of its defects and deformities.</p> <p>Bone grafting of the jaws. Types and causes of lower jaw defects. Indications for bone grafting. Biological justification of bone grafting.</p> <p>Types of transplants. Possibilities of using canned bone and methods of preservation.</p> <p>Auto-bone grafting to eliminate mandibular defects.</p> <p>Preparing for surgery.</p> <p>Methods of fixation of grafts and fragments of the lower jaw during bone-plastic operations (titanium mini-plates, titanium reconstructive rods, metal with shape memory, splints, positioners, bimaxillary dental splints, extraoral devices).</p>

			<p>Postoperative management of the patient, his rehabilitation.</p> <p>Features of bone grafting of the lower jaw for fresh gunshot wounds and removal of tumors (primary bone grafting).</p> <p>Combined bone grafting.</p>
7.	<p>GPC 6 PC 5 PC 6 PC 8</p>	<p>Plastic with local fabrics</p> <p>Plastic with scraps of fabrics from remote areas.</p> <p>Plastic surgery using free tissue transplantation.</p> <p>The use of complex tissue complexes is carried out with local tissues taken in the vicinity of the defect, "flaps on the leg" taken from nearby tissues.</p>	<p>Advantages, disadvantages, indications, and contraindications.</p> <p>The use of typical methods of plastic surgery with local tissues to eliminate defects in the lips and mouth area. Replacement of lip defects with flaps from the cheeks, from the nasolabial furrows, from the other lip, shortening of the frenulum of the lip and tongue.</p> <p>Mathematical justification of planning plastic surgery with local tissues (A. A. Limberg). Use symmetrical, non-symmetrical, and combined shapes.</p> <p>Plastic surgery with tissue flaps from remote areas. Development and implementation of the round stalk flap (V. P. Filatov flap). Biological justification of its use. Using a round stalk flap to replace defects in various parts of the face and oral organs.</p> <p>Formation of the nose from the tissues of a round stalk flap by the method of F. M. Khitrov.</p> <p>Plastic surgery using free tissue transplantation. Modern concepts of biological processes occurring during free transplantation of tissues and organs.</p> <p>Possibilities of using auto-and allotransplantation of various tissues, implants, and endoprostheses in maxillofacial surgery.</p> <p>Free skin grafting. Biological justification. Application to eliminate wound and granulating surfaces on the face and in the oral cavity of various types of skin flaps (thin, split, full thickness).</p> <p>Cartilage grafting as a support material and for correcting the contours of different areas of the face. Application of autochondria, cadaveric preserved cartilage.</p> <p>Application of complex tissue complexes on microvascular anastomosis.</p> <p>Types of flaps. Characteristics of donor zones. Indications, contraindications, advantages, disadvantages. Features of the method.</p>
8.	<p>GPC 6 PC 5 PC 6 PC 8</p>	<p>Gnathic surgery</p>	<p>Surgical treatment of jaw deformities.</p> <p>Malformations and deformities of the jaws.</p> <p>The main types of jaw deformities: underdevelopment (micrognathia) or excessive development (macrognathia) of the upper or lower jaw or their individual sections (prognathia and retrognathia), open bite.</p> <p>Clinical manifestations of defects and deformities, functional and aesthetic disorders. Indications for surgical treatment.</p> <p>Deformity analysis, refined diagnostics using teleroentgenography.</p> <p>Basic methods of operations to correct the size and shape of the</p>

			<p>lower jaw.</p> <p>Operative correction of the shape and position of the upper jaw.</p> <p>Features of surgical techniques, immobilization and postoperative management, prosthetics and rehabilitation of patients after surgery for jaw deformities.</p> <p>Contour plastic surgery to correct the shape of the face and jaws.</p>
9.	<p>GPC 6 PC 5 PC 6 PC 8</p>	Aesthetic surgery	<p>Definition of aesthetic surgery</p> <p>Aesthetic proportions of the face.</p> <p>Indications and contraindications for aesthetic operations on the face.</p> <p>Wrinkles of the face and neck. Clinic, diagnosis, classification, and treatment.</p> <p>Deformities of the auricles. Clinic, diagnosis, classification, and treatment.</p> <p>Deformities of the nose. Congenital and acquired diseases. Clinic, diagnosis, classification, and treatment.</p>
10.	<p>GPC 6 PC 5 PC 6 PC 8</p>	Congenital pathology of the craniofacial region	<p>Classification, clinic, diagnosis, indications for treatment. Types of surgical interventions.</p>
11.	<p>UC 1 GPC 6 PC 5 PC 6 PC 8 PC 9</p>	Oncological diseases of the maxillofacial region	<p>Definition of the tumor. Oncological alertness, oncological doctrine. Organization of an oncological service. Statistics and classification. WHO CIM. Modern ideas about the biological essence of tumors. Predisposing factors for the occurrence of malignant tumors of the maxillofacial region. Methods of examination of patients for the diagnosis of cancer. Precancerous conditions of the skin of the face, red border of the lips and oral mucosa.</p>
12.	<p>GPC 6 PC 5 PC 6 PC 8</p>	<p>Tumors and tumor-like lesions of the oral and maxillary mucosa originating from the multilayered squamous epithelium. Tumors, tumor-like skin lesions, and cysts of the face and neck. Soft tissue tumors.</p>	<p>Squamous cell papilloma. Papillary hyperplasia. Features of the course of cancer of the oral mucosa. Cancer of the lip, tongue, and jawbones. Clinic, diagnosis, differential diagnosis, treatment. Basal cell carcinoma, squamous cell carcinoma, keratoacanthoma, nevi, malignant melanoma. Keratin cysts, dermoid cysts, branchial cysts and fistulas, thyroglossal cysts and neck fistulas. Fibroma, lipoma, benign neoplasms from blood vessels, peripheral nerve tumors.</p>
13.	<p>GPC 6 PC 5 PC 6 PC 8 PC 9</p>	<p>Odontogenic tumors, tumor-like lesions and cysts of the jaws. Bone tumors, tumor-like lesions and epithelial (neodontogenic) jaw cysts</p>	<p>Benign odontogenic tumors and tumor-like lesions: ameloblastoma, odontoma, cementoma, odontogenic fibroma, myxoma. Malignant odontogenic tumors. Odontogenic jaw cysts: keratocyst. Tooth-bearing cyst. Osteoma, osteoblastoma, osteosarcoma. Osteoclastoma. Epulis. Histiocytosis from Langerhans cells. Clinic, diagnosis, and treatment.</p> <p>General principles of treatment of patients with malignant tumors of the maxillofacial region. Objectives of the dentist in the system of providing specialized care to patients with</p>

			maxillofacial tumors and their rehabilitation after surgical treatment.
14.	PC 5 PC 8	Radiation therapy	Indications for radiation therapy depending on the morphological structure and stage of the tumor. Osteoradionecrosis of the jaws, clinic, diagnosis, treatment.