Abstract of the course"Orthodontics"

Name of the discipline	Orthodontics
The complexity of the discipline	2 credits (60 hours)
Course, semester	4th year, 8th semester
The place of the discipline in the curriculum (prerequisites, postrequisites)	The discipline "Therapeutic Dentistry" belongs to the cycle of dental disciplines of the curriculum and is a compulsory discipline. **Prerequisites:**human anatomy (growth and development of the skull), normal physiology, propaedeutics of dental diseases, pediatric dentistry, materials science. Post-requisites: maxillofacial surgery, orthopedic dentistry (adult), state final certification.
Goals and objectives of the discipline	**The purpose of mastering the discipline:** training a dentist who is capable of diagnosing, preventing and treating dental anomalies (DA) in patients of different ages using modern equipment and functional methods. **Objectives of the course:** 1. Study of morphogenesis of the dental system and patterns of growth of the facial skeleton. 2. Mastering the methods of clinical examination of an orthodontic patient (photometry, anthropometry). 3. Study of the etiology and pathogenesis of anomalies of teeth, dental arches and bite. 4. Training in the analysis of additional diagnostic methods: teleradiography (TRG), orthopantomography (OPG) and CBCT. 5. Study of classifications of the ZCHA (according to Angle, Kalvelis and ICD-10). 6. Introduction to the operating principles of removable and fixed orthodontic devices (brackets, aligners). 7. Training in methods of early prevention of chronic obstructive pulmonary disease (elimination of bad habits, myogymnastics).

	8. Study of the interaction of an orthodontist with surgeons and speech therapists in complex treatment.
Competencies:	The discipline contributes to the development of the following competencies; **OK-1**– is able and ready to analyze socially significant problems and processes, to use methods of natural sciences, mathematics and humanities in various types of professional and social activities; **IK-1** - able and willing to work with computer equipment and software providing systemic and applied purposes for solving professional problems; **SLK-1**- able and ready to implement ethical, deontological and bioethical principles in professional activities; **SLK-2**- able and ready for professional communication techniques; build interpersonal relationships, work in a group, constructively resolve conflict situations, tolerate social, ethnic, religious and cultural differences; **PC-2**- is able and ready to conduct and interpret a survey, physical examination, clinical examination, results of modern laboratory and instrumental studies, morphological analysis of biopsy, surgical and autopsy material of patients, prepare a medical record of outpatient and inpatient patients of children and adults; **PC-3**- is able and willing to conduct a pathophysiological analysis of clinical syndromes, use sound methods of diagnosis, treatment, rehabilitation and prevention among children, taking into account their age, and the adult population; **PC-4**- is able and ready to apply aseptic and antiseptic methods, use medical instruments, carry out sanitization of treatment and diagnostic rooms,

	children's healthcare organizations, and be proficient in the techniques of caring for sick children and adults; **PC-6**- is able and ready to work with medical and technical equipment used in work with patients, computer equipment, receive information from various sources, apply the capabilities of modern information technologies to solve professional problems; **PC-15** - able and willing to collect and record a complete patient medical history, including oral health data; **PC-16** - is capable and ready to make a diagnosis based on the results of clinical laboratory studies of biological materials and taking into account the laws of the course of pathology in organs, systems and the body as a whole; **PC-19**- is able and ready to diagnose typical dental diseases of the hard and soft tissues of the oral cavity, dentofacial anomalies in patients of all ages; **PC-20** - able and willing to analyze and interpret the results of modern diagnostic technologies in children, adolescents and adults for successful treatment and preventive activities. - treatment activities: **PC-22** - able and ready to perform basic treatment procedures for the most common dental diseases and conditions in adults and children; **PC-23** - is able and ready to prescribe adequate treatment to patients with dental diseases in accordance with the diagnosis, and implement an algorithm for selecting drug and non-drug therapy; **DPK-1**- the ability to use modern digital technologies in the diagnosis and treatment of dental diseases.
Results of mastering the discipline	The results of mastering the discipline are formed using the active verbs of Bloom's Taxonomy: After mastering this discipline, the student: **Will know:**

	• periods of bite development and signs of physiological occlusion in different age groups; • types and design of modern orthodontic devices (mechanical, functional, combined); • Indications and contraindications for orthodontic treatment. **Will understand:** • biological basis of tooth movement and the response of periodontal tissues to orthodontic load; • the role of genetic factors and functions (breathing, swallowing, speech) in the formation of bite pathologies. **Will be able to use:** • methods of anthropometric measurement of diagnostic models of jaws (according to Ponto, Korkhauz, Snagina); • Cephalometric analysis of the TRG to determine the type of growth and position of the jaws. **Will be able to:** • conduct differential diagnostics of various forms of bite anomalies; • determine the timing and scope of preventive measures during mixed dentition; • perform selection and fitting of standard orthodontic structures (pre-orthodontic trainers); • carry out adjustments to removable devices and provide recommendations for the care of non-removable devices; • evaluate treatment results and carry out retention measures to prevent relapses.
Basic literature	1. **William R. Proffit.**Contemporary Orthodontics. Elsevier. (The global standard for orthodontic education). 2. **Sridhar Premkumar.**Textbook of Orthodontics. (A popular textbook for students). 3. **Thomas Graber.**Orthodontics: Current Principles and Techniques.

	4. **Persin L. S.**Orthodontics. Diagnosis and Treatment of Dentofacial Anomalies. Textbook. (Basic in the CIS). 5. **Khoroshilkina F. Ya.**Orthodontics. (Fundamental guide). 6. **Oral Medicine.**Exam Preparatory Manual for Undergraduates.