

MINISTRY OF HEALTH OF UKRAINE  
KHARKIV NATIONAL MEDICAL UNIVERSITY

Department of \_\_\_\_\_ Orthopedic Dentistry \_\_\_\_\_

Academic year \_\_\_\_\_ 2021-2022 \_\_\_\_\_

**SYLLABUS OF THE DISCIPLINE**

**" ORTHOPEDIC DENTISTRY"**

(name of educational component)

Normative or selective educational component \_\_\_\_\_ Basic \_\_\_\_\_

Educational component format \_\_\_\_\_ Mixed \_\_\_\_\_  
(full-time; mixed; distance)

Field of knowledge \_\_\_\_\_ 22 "Health care" \_\_\_\_\_  
(code and name of the field of knowledge)

Specialty \_\_\_\_\_ 221 "Dentistry", the second (master's) level \_\_\_\_\_  
(code and name of the specialty)

Educational and professional program (educational and scientific program) \_\_\_\_\_ "Dentistry" \_\_\_\_\_

The second (master's) level of higher education

Course \_\_\_\_\_ IV \_\_\_\_\_

The syllabus of the discipline was considered  
at the meeting of the department  
orthopedic dentistry

Protocol from  
"30" \_\_\_\_\_ August \_\_\_\_\_ 2021 № 14

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Protocol from  
"02" \_\_\_\_\_ September \_\_\_\_\_ 2021 \_\_\_\_\_ year № 4 \_\_\_\_\_

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## INTRODUCTION

**The syllabus of the discipline "Orthopedic Dentistry"** is compiled in accordance with the educational-professional program (hereinafter - OPP) "Dentistry" and the Standard of Higher Education of Ukraine (hereinafter - the Standard), the second (master's) level, field of knowledge 22 "Health", specialty 221 Dentistry ”.

**Description of the discipline (abstract)** This discipline is a separate course of which is the acquisition by students of skills in the examination and treatment of patients with complete loss of teeth and deformities of the dental system in the clinic of orthopedic dentistry. The special (professional) competencies acquired in this way are further used by educators in the process of treatment of orthopedic dental patients together with acquaintance with the organization and work of clinical offices, preparation of the necessary documentation.

This course gives students the opportunity to master certain dental manipulations used in the treatment of patients with complete loss of teeth and acquired or congenital defects of the dental system. Acquired in this way special (professional) competencies applicants will be able to use in the clinic in the treatment of patients with these types of pathology.

**The subject the study of the discipline is** orthopedic treatment of diseases of the dental apparatus:

- defects of the coronal part of individual teeth
- partial loss of teeth
- adentia
- maxillary deformities

**Interdisciplinary connections:** The study involves the preliminary mastering of disciplines in medical biology, normal and pathological anatomy, histology, embryology and cytology of normal and pathological physiology, bioorganic and inorganic chemistry, biochemistry, medical physics, microbiology, materials science in dentistry, therapeutics, propaedeutics dentistry, prevention of dental diseases, propaedeutics of orthopedic dentistry, general hygiene, radiation diagnostics and radiation therapy, medical informatics, bioethics. pharmacology and prescription, epidemiology and principles of evidence-based medicine, emergency and urgent medical care.

**Prerequisites.** The study of the discipline involves the prior mastering of disciplines in medical biology, normal and pathological anatomy, histology, embryology and cytology of normal and pathological physiology, bioorganic and inorganic chemistry, biochemistry, medical physics, microbiology, materials science in dentistry, dentistry, propaedeutics propaedeutics of pediatric therapeutic dentistry, general hygiene.

**Postrequisites.** The main provisions of the discipline should be applied in the study of related disciplines for 5 years of study, is the basis for preparation for the licensing exam EDKI, preparation for study in higher education institutions in the programs of the third educational and scientific level of higher education.

**Link to the discipline page in MOODLE** <http://distance.knmu.edu.ua/course/index.php?categoryid=234>

## 1. PURPOSE AND TASKS OF THE COURSE

**1.1. The purpose of teaching curriculum discipline** The purpose of teaching the discipline "Orthopedic Dentistry" is the professional formation of the future specialist, able to solve clinical problems using the acquired knowledge and skills in the discipline, which involves the integration of teaching the discipline with therapeutic, surgical and pediatric dentistry.

**1.2. The main tasks of studying the discipline** is the acquisition by students of competencies in accordance with the general and professional competencies of the educational-professional program "Dentistry" of the second level of higher education in the specialty 221 Dentistry (discipline "Orthopedic Dentistry").

**1.3. Competences and learning outcomes**, the formation of which is facilitated by the discipline (relationship with the normative content of training of higher education, formulated in terms of learning outcomes in the OPP and Standard).

**1.3.1.** The study of the discipline provides students with the acquisition of competencies:

In accordance with the requirements of the standard, the discipline provides education for students **competencies:**

– *integral:*

ability to solve typical and complex specialized tasks and practical problems in professional activities in the field of health care, or in the learning process, which involves research and / or innovation and is characterized by complexity and uncertainty of conditions and requirements.

– *general:*

ability to abstract thinking, analysis and synthesis; ability to apply knowledge in practice; skills of using information and communication technologies; ability to search, process and analyze information from various sources; ability to adapt and act in a new situation; ability to work in a team; ability to preserve and increase moral, cultural, scientific values and achievements of society based on understanding the history and patterns of development of the subject area, its place in the general system of knowledge about nature and society and in the development of society, techniques and technologies. active recreation and leading a healthy lifestyle.

– *special (professional, subject):*

ability to collect medical information about the patient and analyze clinical data; ability to diagnose: determine the preliminary, clinical, final, concomitant diagnosis, emergencies; ability to plan and carry out measures for the prevention of diseases of organs and tissues of the oral cavity and maxillofacial region; ability to determine the tactics of management of patients with diseases of organs and tissues of the oral cavity and maxillofacial region with concomitant somatic diseases; ability to perform medical and dental manipulations; ability to treat major diseases of organs and tissues of the oral cavity and maxillofacial region; ability to determine tactics, methods and provide emergency medical care; ability to organize and conduct screening examinations in dentistry; ability to maintain regulatory medical records; ability to organize and conduct rehabilitation measures and care for patients with diseases of the oral cavity and SLE; ability to provide legal support for one's own professional activity. ability to provide home care according to the protocols of tactical medicine.

**1.3.2.** The study of the discipline ensures the acquisition by students of the following program learning outcomes:

The course covers the main aspects of training a future orthopedic dentist.

According to the training program in the discipline "Orthopedic Dentistry" the applicant will acquire theoretical knowledge, methodological training, practical skills and abilities in the following areas:

1. Identify and identify the leading clinical symptoms and syndromes (according to list 1); according to standard methods, using preliminary data of the patient's anamnesis, data of the patient's examination, knowledge about the person, his organs and systems, to establish a probable nosological or syndromic preliminary clinical diagnosis of a dental disease (according to list 2).

2. Collect information about the general condition of the patient, assess the psychomotor and physical development of the patient, the condition of the maxillofacial organs, based on the results of laboratory and instrumental studies to assess information about the diagnosis (list 5).



3. Prescribe and analyze additional (mandatory and optional) methods of examination (laboratory, radiological, functional and / or instrumental) according to list 5, patients with diseases of organs and tissues of the oral cavity and maxillofacial region for differential diagnosis of diseases ( for list 2).
4. Determine the final clinical diagnosis in accordance with the relevant ethical and legal norms, by making an informed decision and logical analysis of the obtained subjective and objective data of clinical, additional examination, differential diagnosis under the supervision of a physician-manager in a medical institution (according to list 2.1 ).
5. Establish a diagnosis of emergencies under any circumstances (at home, on the street, in a medical institution), in an emergency, martial law, lack of information and limited time (according to list 4).
6. Plan and implement measures for the prevention of dental diseases among the population to prevent the spread of dental diseases.
8. Determine the approach, plan, type and principle of treatment of dental disease (according to list 2) by making an informed decision according to existing algorithms and standard schemes.
11. Carry out treatment of the main dental diseases according to the existing algorithms and standard schemes under the control of the doctor-manager in the conditions of medical institution (according to the list 2.1).
13. Determine the tactics of emergency medical care, using the recommended algorithms, under any circumstances on the basis of a diagnosis of emergency in a limited time (according to list 4).
17. Adhere to a healthy lifestyle, use the techniques of self-regulation and self-control.
19. Adhere to the requirements of ethics, bioethics and deontology in their professional activities.
21. Perform medical manipulations on the basis of preliminary and / or final clinical diagnosis (according to lists 2, 2.1) for different segments of the population and in different conditions (according to list 6).
23. Manipulate the provision of emergency medical care, using standard schemes, under any circumstances on the basis of a diagnosis of emergency (according to list 4) in a limited time (according to lists 6, 7).

**1.3.3.** The study of the discipline provides students with the following social skills (Soft skills):

- communicativeness (realized through: the method of group work and brainstorming during the analysis of clinical cases, the method of presenting the results of independent work and their protection in the group),
- teamwork (implemented through: group work method and brainstorming during the analysis of clinical cases),
- conflict management (implemented through: business games),
- time management (implemented through: the method of self-organization during classroom work in groups and independent work),
- leadership skills (implemented through: the method of presenting the results of independent work and their defense in the group).

## 2. INFORMATION SCOPE OF THE COURSE

### 2.1 Description of the discipline

Name of indicators	Field of knowledge, specialty, educational and qualification level	Characteristics of the discipline	
		full-time education	evening form of study
Number of credits - 4.0	Branch of knowledge <u>22 «Healthcare »</u> (code and name)	Normative	
The total number of hours is 120	Specialty: 221 "Dentistry" (code and name)	<b>Year of preparation:</b>	
		4th	-and
		<b>Semester</b>	
		7.8th	-and
Hours for day (or evening) form of study: classrooms - 80 independent student work - 40	Educational and qualification level: second (master's) OPP ___ Dentistry__	<b>Lectures</b>	
		10 years	year
		<b>Practical, seminar</b>	
		70 years	year
		<b>Laboratory</b>	
		year	year
		<b>Individual work</b>	
		40 years	year
<b>Individual tasks: year</b>			
Type of control: exam			

#### 2.2.1 Lectures

№ s / n	Name topics	Number hours	Type of lecture
	Section "Complete dental prosthetics"		
1.	Anatomical and topographic features of the structure of the maxillofacial region in edentulous jaws. The doctrine of fixation of prostheses on toothless jaws. Getting impressions from a patient with complete absence of teeth	2	
2.	Determination of the central ratio of the jaws in the complete absence of teeth. Laws of articulation of dentures design.	2	
3.	Checking the design of removable plate prostheses. Errors in determining the central ratio of the jaws. Causes and prevention. Laboratory stages of manufacturing complete removable dentures.	2	
	Together under section 1	6	
	Section "Maxillofacial Orthopedics"		
1.	Maxillofacial orthopedics. Purpose, task. Classification of jaw fractures. Clinic, diagnosis and orthopedic treatment.	2	
2.	Organization of orthopedic dental care in the army and navy in peacetime and wartime. Comparative evaluation of cast non-removable structures of dentures with other types of dentures.	2	

Together under section 4	4	
Total hours of discipline	10	

### 2.2.2 Seminars

№ s / n	Name topics	Number hours	Teaching methods	Forms of control
1				
2				
...				
	Hours in general			

### 2.2.3 Practical classes

№ s / n	Name topics	Number hours	Teaching methods	Forms of control
31.	Examination of the patient's oral cavity in the complete absence of teeth. Anatomical and functional changes of the maxillofacial region with complete adentia. Methods of obtaining anatomical prints from the edentulous upper and lower jaws for the manufacture of individual spoons.	5	Narrative-explanation, conversation, lecture, illustration, demonstration, presentation, videos, videos, discussion, modeling of processes and situations, case method, project method, debate, brainstorming method.	Oral interview (individual and frontal); written survey; test control; creative tasks; individual tasks; abstracts; mutual control; self-control; report; declamation; poster report and others.
32.	Making individual spoons for the upper and lower jaws. Fitting hard individual spoons. Herbst functional tests.	5	Narrative-explanation, conversation, lecture, illustration, demonstration, presentation, videos, videos, discussion, modeling of processes and situations, case method, project method, debate, brainstorming method.	Oral interview (individual and frontal); written survey; test control; creative tasks; individual tasks; abstracts; mutual control; self-control; report; declamation; poster report and others.
33.	Classification of functional prints from the upper and lower jaws. Determination of the central ratio of the jaws in the case of dentition defects of group IV according to Betelman. Definition of landmarks for construction of artificial dentitions.	5	Narrative-explanation, conversation, lecture, illustration, demonstration, presentation, videos, videos, discussion, modeling of processes and situations, case method, project method, debate, brainstorming method.	Oral interview (individual and frontal); written survey; test control; creative tasks; individual tasks; abstracts; mutual control; self-control; report; declamation; poster report and others.
34.	Biomechanics of mandibular movements. Occlusion factors. Functional harmony of the masticatory system. Theories of articulation, basic provisions.	5	Narrative-explanation, conversation, lecture, illustration, demonstration, presentation, videos, videos, discussion, modeling of processes and situations, case method, project method,	Oral interview (individual and frontal); written survey; test control; creative tasks; individual tasks; abstracts; mutual control; self-control; report; declamation; poster report and others.

			debate, brainstorming method.	
35.	Principles of work with the articulator at prosthetics of patients with edentulous jaws. Anatomical placement of teeth on glass, on a spherical surface.	5	Narrative-explanation, conversation, lecture, illustration, demonstration, presentation, videos, videos, discussion, modeling of processes and situations, case method, project method, debate, brainstorming method.	Oral interview (individual and frontal); written survey; test control; creative tasks; individual tasks; abstracts; mutual control; self-control; report; declamation; poster report and others.
36.	Checking the design of complete removable dentures. Stages of gypsum in the polymerization cuvette, polymerization methods. Treatment of complete removable dentures after polymerization of plastics. Repair of prostheses.	5	Narrative-explanation, conversation, lecture, illustration, demonstration, presentation, videos, videos, discussion, modeling of processes and situations, case method, project method, debate, brainstorming method.	Oral interview (individual and frontal); written survey; test control; creative tasks; individual tasks; abstracts; mutual control; self-control; report; declamation; poster report and others.
37.	Fixation of complete removable dentures. Adaptation to prostheses. Correction of complete removable dentures. FINAL LESSON.	5	Narrative-explanation, conversation, lecture, illustration, demonstration, presentation, videos, videos, discussion, modeling of processes and situations, case method, project method, debate, brainstorming method.	Oral interview (individual and frontal); written survey; test control; creative tasks; individual tasks; abstracts; mutual control; self-control; report; declamation; poster report and others.
38	Emergency dentistry. The amount of orthopedic care for maxillofacial wounded and dental equipment at the stages of treatment.	5	Narrative-explanation, conversation, lecture, illustration, demonstration, presentation, videos, videos, discussion, modeling of processes and situations, case method, project method, debate, brainstorming method.	Oral interview (individual and frontal); written survey; test control; creative tasks; individual tasks; abstracts; mutual control; self-control; report; declamation; poster report and others.
39	Maxillofacial orthopedics. Purpose and objectives. The mechanism of displacement of fragments in fractures of the jaws. General characteristics of maxillofacial devices and their classification. Transport tires. Ligature ligation of teeth.	5	Narrative-explanation, conversation, lecture, illustration, demonstration, presentation, videos, videos, discussion, modeling of processes and situations, case method, project method, debate, brainstorming method.	Oral interview (individual and frontal); written survey; test control; creative tasks; individual tasks; abstracts; mutual control; self-control; report; declamation; poster report and others.
40	Etiology, clinic and orthopedic treatment of fractures of the jaws with	5	Narrative-explanation, conversation, lecture, illustration,	Oral interview (individual and frontal); written survey; test control;

	persistent displacement of fragments. The amount of specialized orthopedic care for the wounded with fractures of the jaws. Laboratory tires.		demonstration, presentation, videos, videos, discussion, modeling of processes and situations, case method, project method, debate, brainstorming method.	creative tasks; individual tasks; abstracts; mutual control; self-control; report; declamation; poster report and others.
41	Etiology, pathogenesis, clinic of mandibular contractures and fractures that fused incorrectly. Causes of the formation of a false joint, clinic. Pathological anatomy of the false joint. Dental prosthetics.	5	Narrative-explanation, conversation, lecture, illustration, demonstration, presentation, videos, videos, discussion, modeling of processes and situations, case method, project method, debate, brainstorming method.	Oral interview (individual and frontal); written survey; test control; creative tasks; individual tasks; abstracts; mutual control; self-control; report; declamation; poster report and others.
42	The use of orthopedic devices in osteoplasty and soft tissue plastics of the maxillofacial area (forming and fixing devices). Etiology, pathogenesis, clinic of mandibular contractures, their classification. Prevention of contractures and orthopedic methods of their treatment.	5	Narrative-explanation, conversation, lecture, illustration, demonstration, presentation, videos, videos, discussion, modeling of processes and situations, case method, project method, debate, brainstorming method.	Oral interview (individual and frontal); written survey; test control; creative tasks; individual tasks; abstracts; mutual control; self-control; report; declamation; poster report and others.
43	Microstomy. Etiology, clinic. Features of dental treatment and prosthetics of microstomy.	5	Narrative-explanation, conversation, lecture, illustration, demonstration, presentation, videos, videos, discussion, modeling of processes and situations, case method, project method, debate, brainstorming method.	Oral interview (individual and frontal); written survey; test control; creative tasks; individual tasks; abstracts; mutual control; self-control; report; declamation; poster report and others.
44	Prevalence, etiology, pathogenesis and orthopedic treatment of hard and soft palate defects. Prosthetics of facial defects (ectoprosthesis). Getting a face mask. FINAL LESSON.	5	Narrative-explanation, conversation, lecture, illustration, demonstration, presentation, videos, videos, discussion, modeling of processes and situations, case method, project method, debate, brainstorming method.	Oral interview (individual and frontal); written survey; test control; creative tasks; individual tasks; abstracts; mutual control; self-control; report; declamation; poster report and others.
Hours in general		70		

#### 2.2.4. Laboratory classes

No s / n	Name topics	Number hours	Teaching methods	Forms of control
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1				
2				
...				
	Hours in general			

### 2.2.5. Individual work

№ s / n	Name topics	Number hours	Teaching methods	Forms of control
1	Examination of the patient's mouth in the complete absence of teeth.	3	Study and analysis of basic and auxiliary literature, videos, videos, discussion, case method, "Brainstorming", webinar, virtual consultation.	Oral interview; creative tasks; individual tasks; abstracts; portfolio method; self-control; report; declamation; poster report and others.
2	Making individual spoons for the upper and lower jaws.	3	Study and analysis of basic and auxiliary literature, videos, videos, discussion, case method, "Brainstorming", webinar, virtual consultation.	Oral interview; creative tasks; individual tasks; abstracts; portfolio method; self-control; report; declamation; poster report and others.
3	Classification of functional prints from the upper and lower jaws.	2	Study and analysis of basic and auxiliary literature, videos, videos, discussion, case method, "Brainstorming", webinar, virtual consultation.	Oral interview; creative tasks; individual tasks; abstracts; portfolio method; self-control; report; declamation; poster report and others.
4	Biomechanics of mandibular movements.	3	Study and analysis of basic and auxiliary literature, videos, videos, discussion, case method, "Brainstorming", webinar, virtual consultation.	Oral interview; creative tasks; individual tasks; abstracts; portfolio method; self-control; report; declamation; poster report and others.
5	Principles of work with the articulator at prosthetics of patients with edentulous jaws.	3	Study and analysis of basic and auxiliary literature, videos, videos, discussion, case method, "Brainstorming", webinar, virtual consultation.	Oral interview; creative tasks; individual tasks; abstracts; portfolio method; self-control; report; declamation; poster report and others.
6	Checking the design of complete removable dentures.	3	Study and analysis of basic and auxiliary literature, videos, videos, discussion, case method, "Brainstorming", webinar, virtual consultation.	Oral interview; creative tasks; individual tasks; abstracts; portfolio method; self-control; report; declamation; poster report and others.
7	Fixation of complete removable dentures.	2	Study and analysis of basic and auxiliary literature, videos, videos, discussion, case method, "Brainstorming", webinar, virtual consultation.	Oral interview; creative tasks; individual tasks; abstracts; portfolio method; self-control; report; declamation; poster report and others.

8	Emergency dentistry.	3	Study and analysis of basic and auxiliary literature, videos, videos, discussion, case method, "Brainstorming", webinar, virtual consultation.	Oral interview; creative tasks; individual tasks; abstracts; portfolio method; self-control; report; declamation; poster report and others.
9	Maxillofacial orthopedics.	3	Study and analysis of basic and auxiliary literature, videos, videos, discussion, case method, "Brainstorming", webinar, virtual consultation.	Oral interview; creative tasks; individual tasks; abstracts; portfolio method; self-control; report; declamation; poster report and others.
10	General characteristics of maxillofacial devices and their classification.	3	Study and analysis of basic and auxiliary literature, videos, videos, discussion, case method, "Brainstorming", webinar, virtual consultation.	Oral interview; creative tasks; individual tasks; abstracts; portfolio method; self-control; report; declamation; poster report and others.
11	Etiology, pathogenesis, clinic of mandibular contractures and fractures that fused incorrectly.	3	Study and analysis of basic and auxiliary literature, videos, videos, discussion, case method, "Brainstorming", webinar, virtual consultation.	Oral interview; creative tasks; individual tasks; abstracts; portfolio method; self-control; report; declamation; poster report and others.
12	The use of orthopedic devices in osteoplasty and soft tissue plastics of the maxillofacial area.	3	Study and analysis of basic and auxiliary literature, videos, videos, discussion, case method, "Brainstorming", webinar, virtual consultation.	Oral interview; creative tasks; individual tasks; abstracts; portfolio method; self-control; report; declamation; poster report and others.
13	Microstomy. Etiology, clinic.	3	Study and analysis of basic and auxiliary literature, videos, videos, discussion, case method, "Brainstorming", webinar, virtual consultation.	Oral interview; creative tasks; individual tasks; abstracts; portfolio method; self-control; report; declamation; poster report and others.
14	Prevalence, etiology, pathogenesis and orthopedic treatment of hard and soft palate defects.	3	Study and analysis of basic and auxiliary literature, videos, videos, discussion, case method, "Brainstorming", webinar, virtual consultation.	Oral interview; creative tasks; individual tasks; abstracts; portfolio method; self-control; report; declamation; poster report and others.
Total hours of discipline		40		

## 2. EVALUATION CRITERIA

### 3.

**3.1.** Evaluation of the success of education of students is carried out on the basis of the current "Instructions for evaluating the educational activities of students of KhNMU"

**LoansECTS** reflect the amount of study load and include all types of work of the student provided by the curriculum: classroom, independent, all types of practices, preparation and preparation of certifications. One ECTS credit is 30 academic hours.

**Current control** (hereinafter - PC) is conducted by research and teaching staff at each classroom (except for lectures). The main task of current control is to check the level of preparation of students to perform specific work. The main purpose of the current control is to provide feedback between research and teaching staff and students in the learning process and to ensure the management of their learning motivation. The information obtained during the current control is used by both research and teaching staff - to adjust teaching methods and tools, and students - to plan independent work. Based on the results of mastering each topic of the lesson, a grade is given using a 4-point system.

**Final lesson** (hereinafter - the SOFTWARE) - a lesson in which the assessment of acquired competencies after the logically completed part of the discipline, consisting of a set of educational elements of the discipline program. The software is conducted at one of the practical classes, accepted by the teacher of the academic group. The software should include control of all types of training (theoretical, practical, independent and others) provided by the curriculum. The software is rated, which is one of the ratings of the PC. If there are unsatisfactory grades for practical classes, the teacher is obliged to provide the student with the opportunity to answer additional questions on the topic of these classes with subsequent assessment in the "Journal of the academic group" and ACS.

**Current educational activity (IPA)** - it is the educational activity of the student during the semester, which is supervised by the researcher who conducts classes in the group. IPA is considered fulfilled if the applicant in the current semester has completed all the missed classes and lectures, and the average score for all topics of the PC is 3 points or higher, in which case the statement is marked "completed" and indicates the average score in 4-point system ( is calculated automatically within the functionality of the electronic journal of ACS), or "unfinished", if the applicant in the current semester has unfinished missed classes and lectures, or an average score below 3 points.

**Independent work of the applicant (SRZ)** The educational material of the discipline, provided for mastering by the student in the process of independent work, is submitted for final control together with the educational material studied during the classroom training sessions.

**General educational activity (CIS)**- is considered fulfilled if the applicant has completed all the missed classes and lectures, and the average score for all PC topics is equal to 3 points and above. CIS scores for disciplines with the form of control "exam" are calculated as the arithmetic mean of PC scores for all topics of all semesters, during the entire period of study of the discipline (to the nearest hundredth) according to table 1 "Conversion of the average score for current control within the functionality of the electronic journal of the ACS. CIS is defined in points from 70 to 120. CIS is defined in points from 120 to 200., according to "Instructions for evaluating the educational activities of higher education seekers in KhNMU ».

**Assessment of individual tasks applicant** (hereinafter - IZZ) contribute to a more in-depth study of the theoretical material by the student, the formation of skills to use knowledge to solve relevant practical problems. IE is performed by the applicant independently with the receipt of the necessary advice from the researcher.

- report of the student's abstract on practical lesson 0 - 2 points;
- report with presentation at the practical lesson 0 - 3 points,
- report at scientific and practical conferences of the department, university, writing abstracts, articles 0 - 5 points;
- participation in the All-Ukrainian Olympiad - 5 - 10 points

SRI are evaluated in points (not more than 10), which are added to the points scored for ZND at the end of the study of the discipline, when conducting a "test.

The total amount of points for ZND and IZZ cannot exceed 200 points.

**Discipline assessment (hereinafter - OD)**- is the final control, which is carried out after the student has mastered the educational material in the discipline on the basis of his performance of certain types of work in practical, seminar or laboratory classes, individual tasks and independent work. Assessment of the discipline is carried out after the study of the discipline in the form of "exam".

For disciplines, the study of which ends in the current semester, and the form of control is the "exam", it is assumed that admission to the exam is determined in the CIS scores from 70 to 120, in the absence of absences



from classes and lectures. Omissions for classes and lectures must be completed. The exam is rated from 50 to 80 points. Grade from the discipline - is the sum of points for ZND, IZZ and exam and is from 120 to 200 points.

Applicants for education, who met the requirements of the programs of academic disciplines and were admitted to the final control of the "exam"), but did not pass it or did not appear.

WITH education seekers, who were not allowed to take the "exam", due to the insufficient number of points for ZND, the department marks "not allowed" (grade F).

WITH education seeker, who is admitted to the exam, but did not appear for its passing, the department puts in the statement the mark "did not appear" (grade Fx). The dean is considering the reason for the omission differentiated test or exam: "Respectable" or "disrespectful". If the absence was "disrespectful" the dean marks "unsatisfactory".

After conducting semester control for disciplines, or their parts, ending with the form of control "exam", responsible for the organization of educational and methodical work at the department or the teacher is exhibited to the applicant the relevant assessment according to table 3 "Assessment scale in KhNMU", which is attached (Annex 3) to the individual curriculum of the student and fills in the progress of the discipline, according to "Instructions for evaluating the educational activities of higher education seekers in KhNMU ».

**13. Evaluation of the success of education of students (PND, ZND, credit, differential credit, exam) is carried out on the basis of "Instructions for evaluating the educational activities of higher education seekers in Kharkiv National Medical University», Approved by the order of KhNMU from 21.08.2021 №181.**

### 13.1 Evaluation of current and general learning activities (IPA)

IPA is considered fulfilled if the applicant in the current semester has completed all the missed classes and lectures, and the average score for all topics of the PC is 3 points or higher, in which case the statement is marked "completed" and indicates the average score in 4-point system ( is calculated automatically within the functionality of the electronic journal of ACS), or "unfinished", if the applicant in the current semester has unfinished missed classes and lectures, or an average score below 3 points.

Final score for **HDPE** in the semester is defined as the arithmetic mean of national grades for each lesson and PC, rounded to 2 decimal places and converted into a multi-point scale according to Table 1 in accordance with "Instructions for evaluating the educational activities of higher education seekers in KhNMU ».

General educational activity (CIS) is considered completed if the applicant has completed all the missed classes and lectures, and the average score for all PC topics is equal to 3 points and above. CIS scores for disciplines with the form of control "differentiated credit" are calculated as the arithmetic mean of PC scores for all topics of all semesters, during the entire period of study of the discipline (to the nearest hundredth) according to table 1 "Conversion of average score for current control within the functionality of the electronic journal of the ACS. CIS is defined in points from 70 to 120. CIS is defined in points from 120 to 200, according to "Instructions for evaluating the educational activities of higher education seekers in KhNMU ».

Table 1

**Recalculation of the average score for current activities in a multi-point scale  
(for disciplines ending with an exam)**

4-point scale	200-point scale	4-point scale	200-point scale
5	120	3.91-3.94	94
4.95-4.99	119	3.87-3.9	93
4.91-4.94	118	3.83- 3.86	92
4.87-4.9	117	3.79- 3.82	91
4.83-4.86	116	3.74-3.78	90
4.79-4.82	115	3.7- 3.73	89
4.75-4.78	114	3.66- 3.69	88
4.7-4.74	113	3.62- 3.65	87
4.66-4.69	112	3.58-3.61	86

4-point scale	200-point scale	4-point scale	200-point scale
4.62-4.65	111	3.54- 3.57	85
4.58-4.61	110	3.49- 3.53	84
4.54-4.57	109	3.45-3.48	83
4.5-4.53	108	3.41-3.44	82
4.45-4.49	107	3.37-3.4	81
4.41-4.44	106	3.33- 3.36	80
4.37-4.4	105	3.29-3.32	79
4.33-4.36	104	3.25-3.28	78
4.29-4.32	103	3.21-3.24	77
4.25- 4.28	102	3.18-3.2	76
4.2- 4.24	101	3.15- 3.17	75
4.16- 4.19	100	3.13- 3.14	74
4.12- 4.15	99	3.1- 3.12	73
4.08- 4.11	98	3.07- 3.09	72
4.04- 4.07	97	3.04-3.06	71
3.99-4.03	96	3.0-3.03	70
3.95- 3.98	95	Less 3	Not enough

**13.2. Conducting and assessing the exam.** For disciplines, the study of which ends in the current semester, and the form of control is the "exam", it is assumed that admission to the exam is determined in the CIS scores from 70 to 120, in the absence of absences from classes and lectures. Omissions for classes and lectures must be completed. The exam is rated from 50 to 80 points. Grade from the discipline - is the sum of points for ZND, IZZ and exam and is from 120 to 200 points.

The schedule approved for the session is approved by the Rector of the University, indicating the specific dates of the exams. after which the recalculation of points is in accordance with table 7, in accordance with the "Instructions for assessing the educational activities of applicants for higher education in KhNMU."

Table 7

#### Assessment of theoretical knowledge and practical skills, if they are presented in one ticket

Number of questions	«5»	«4»	«3»	Answer for tickets, which include theoretical and practical parts of the discipline	For each answer the student receives from 10 to 16 points, which corresponds to: "5" - 16 points; "4" - 13 points; "3" - 10 points.
1	16	13	10		
2	16	13	10		
3	16	13	10		
4	16	13	10		
5	16	13	10		
	80	65	50		

#### 13.3.Evaluation of the discipline

After conducting semester control for the discipline, ending with the form of control "exam", responsible for the organization of educational and methodical work at the department or the teacher is exhibited to the applicant the corresponding assessment according to table 3 "Assessment scale in KhNMU", attached (Annex 3), according to "Instructions for evaluating the educational activities of higher education seekers in KhNMU »,in the individual curriculum of the student and fills in the progress of the discipline.

**Evaluation scale at KhNMU**

Rating on a 200-point scale	Assessment on the ECTS scale	Score for four-point scale
180–200	AND	Perfectly
160–179	IN	Fine
150–159	WITH	Fine
130–149	D	Satisfactorily
120–129	E	Satisfactorily
Less than 120	F, Fx	Unsatisfactorily

**3.2. Questions for credit and exam:****The list of control questions for carrying out the final modular control in orthopedic dentistry  
Semester 7 "Complete removable dentures"**

1. Examination of a patient with complete absence of teeth. History: definition and structure
2. Anatomical and physiological features of the oral cavity of a patient with complete absence of teeth
3. Changes in the dental apparatus due to complete loss of teeth
4. External inspection. Intraoral examination of a patient with complete absence of teeth
5. Preparation of the oral cavity for prosthetics with complete removable prostheses
6. Determination of the degree of atrophy of the jaws by Schroeder, Keller. The value of the condition of the jaws in ensuring the fixation of complete removable dentures
7. Assessment of the condition of the mucous membrane of the prosthetic bed by Supple and Lund. Value the state of susceptibility of the mucous membrane, regarding the choice of method of obtaining an imprint
8. Classification of prints
9. Classification of impression materials
10. Anatomical and physiological substantiation of the boundaries of the prosthesis on the upper jaw
11. Anatomical and physiological substantiation of the boundaries of the prosthesis on the lower jaw
12. "Prosthetic field", "prosthetic bed", "neutral zone" - definition, topography and clinical significance
13. Methods of fixation of complete removable prostheses (mechanical, biomechanical, physical and biophysical)
14. Evaluation of print quality. Disinfection of prints
15. Obtaining anatomical prints from the edentulous upper and lower jaws for making individual spoons
16. Methods of one-time production of individual spoons
17. Laboratory methods of making individual spoons
18. Fitting a hard individual spoon on the upper jaw according to the method of Herbst
19. Fitting a hard individual spoon on the lower jaw according to the method of Herbst
20. Classification of functional prints
21. "Functionally absorbable imprint" - definition of the term and clinical significance
22. "Actually functional imprint" - definition of the term and clinical significance
23. Comparative characteristics of anatomical, proper-functional and functional-sucking fingerprints
24. Obtaining functional suction impressions under masticatory pressure.
25. Formation of the edges of the functional imprint
26. Boyanov's method of obtaining functional prints from toothless jaws
27. Shrot method
28. CITO methodology
29. Vasilenko's method
30. Determination of the central ratio of edentulous jaws
31. Methods for determining interalveolar height

32. Definition of terms - "occlusal plane", "prosthetic plane", "central ratio", "central occlusion"
33. Methods of fixing the central ratio of the jaws
34. Characteristics of the state of relative physiological rest of the masticatory muscles
35. Errors in determining the central occlusion, their causes, signs and consequences
36. Components of the masticatory system, their functional relationship
37. Chewing muscles: classification, anatomy, function
38. Anatomy and physiology of the TMJ
39. Phases of chewing according to Giza
40. Factors of occlusion. Sagittal movements of the lower jaw: sagittal joint path, angle of sagittal articular path, sagittal incisal path, angle of sagittal incisal path
41. Occlusion factors. Transverse movements of the lower jaw: Bennett's motion, Bennett's angle, transverse incisal path, gothic angle
42. Vertical movements of the lower jaw
43. Definition of "occlusion" and "articulation"
44. Definition of "working party" and "balancing party"
45. Devices that reproduce the movements of the lower jaw. Classification of devices
46. Occluders and articulators, their classification. Principles of design
47. The main provisions of articulation theory. Postulates of Bonville, Hanau
48. Articular theory of articulation (Gizi, Hanau, Bonville)
49. Spherical theory of articulation (Monson, Sapozhnikov, Chernykh, Khmelevsky)
50. Methods of registration of individual movements of the lower jaw
51. Christensen's phenomenon, intraoral method of determining the angles of the sagittal and transverse pathways (method of Efron, Gelfand, Katz)
52. Features of fully adjustable, semi-adjustable, medium anatomical articulators
53. Structural differences of articulators of systems "Arkon" and "Nonarkon"
54. Structural elements of articulators: facial arches, their purpose
55. Checking the design of complete removable dentures, the essence of the clinical stage
56. Errors in fixing the central ratio in the complete absence of teeth
57. Clinical signs with increasing bite height
58. Clinical signs with a decrease in bite height
59. Check the design of complete removable dentures in the articulator
60. Checking the design of complete removable dentures in the oral cavity. Debugging methods
61. Types and rules of plastering wax reproductions in the ditch
62. Stages of polymerization of plastics
63. Compression and casting
64. Fixation, stabilization and balance of complete removable dentures
65. Topography of the sublingual, retromolar and retroalveolar space
66. Phases of adaptation to prostheses according to V.Yu. Kurlyansky
67. Features of re-prosthetics of patients who previously used full removable dentures
68. Check of occlusal contacts, grinding of artificial teeth
69. Classification of diseases of the oral mucosa that occur under influence of removable prostheses by Z.S. Василенко
70. Etiology, clinic and pathogenesis of mechanical impact of removable dentures. Treatment
71. Etiology, clinic and pathogenesis of chemical exposure to removable dentures. Treatment
72. Etiology, clinic and pathogenesis of sensitizing effects of removable dentures. Treatment
73. Exposure and provocative tests: methods, clinical characteristics of samples
74. Characteristics of non-inflammatory diseases of the oral mucosa, which occur under the influence of removable dentures
75. Principles of anatomical placement of teeth according to ME Vasiliev
76. Features of tooth placement in the prognathic and retrognathic ratio of the jaws

77. Statement on a spherical surface (according to Monson)
78. Principles of Giza teeth placement
79. Recording of individual movements of the lower jaw. Katz-Efron-Gelfand methods, MA Napadova and AL Sapozhnikova
80. Types of artificial teeth, methods of connection with the base
81. Methods of fixing complete removable prostheses: mechanical, biomechanical, physical and biophysical
82. The sequence of processing of complete removable dentures after polymerization
83. Correction of complete removable dentures
84. Grinding and polishing of complete removable dentures. Tools and tools
85. Repair of removable dentures
86. The composition of base plastics: characteristics, advantages and disadvantages
87. Rules for the manufacture of wax bases with biting rollers
88. Compression and casting
89. Modes of polymerization of plastics
90. Polishing mixtures used for polishing denture bases

### **Semester 8 "Maxillofacial Orthopedics"**

1. Classifications of jaw fractures: DA Entina, I.G. Lukomsky, Le Faure, BD Кабакова
2. Chewing muscle groups and their functions are normal. The mechanism of movements of the lower jaw. Neuromuscular system
3. The mechanism of displacement of fragments in fractures of the upper jaw
4. The mechanism of displacement of fragments in fractures of the mandible: in unilateral mental and angular fractures
5. The mechanism of displacement of fragments in fractures of the mandible along the midline, in the area of the condylar sprout
6. The mechanism of displacement of fragments in fractures of the mandible: in unilateral mental and angular fractures
7. The mechanism of displacement of fragments in bilateral fractures of the mandible
8. Maxillofacial orthopedics and maxillofacial prosthetics of increased complexity. Definition, purpose and tasks, stages of development
9. Classification of maxillofacial devices used to treat the wounded and sick, their characteristics
10. Classification of fractures of the upper and lower jaws. Features and mechanism of displacement of mandibular fragments depending on the location of the fracture line and its type
11. Features of traumatic injuries of the maxillofacial area. Non-gunshot and gunshot wounds
12. Transport tires. Ligature binding. See. Indications for use
13. Features of orthopedic care for fractures with limited mobility of fragments. Devices and tires. The principle of their operation
14. Features of orthopedic care for fragments that are not properly fused, false joints. Devices and tires. The principle of their operation
15. Forming and fixing devices for soft tissue plastics and osteoplasty of the jaws in the wounded in the maxillofacial area and after surgery
16. Contractures of the mandible, their classification. The mechanism of development of contractures. Orthopedic interventions in the treatment of contractures. Therapeutic gymnastics
17. Etiology and clinic of microstomy. Dental prosthetics of maxillofacial wounded with microstomy. Features of fingerprinting and fabrication of prosthesis structures
18. Prosthetics during resection of the upper jaw. Types (alveolar process, unilateral, on the edentulous jaw). Amount. Direct and subsequent prosthetics
19. Prosthetics during resection of the mandible. Types (alveolar part, unilateral, chin, branches). Amount. Direct and subsequent prosthetics. Features of use of splints and prostheses
20. Prosthetics for facial defects. Reasons. Getting a face mask. Ectoprostheses. Methods of fixation. The concept of epithets.

**The list of practical skills to be tested during the final module control in orthopedic dentistry.**

### **Semester 7 "Complete removable prosthetics"**

1. Examine the patient in the clinic of orthopedic dentistry
2. Analyze additional (special) survey methods
3. Get anatomical prints from toothless jaws
4. Make an individual spoon according to the method of Vasylenko
5. Get functional prints by different methods
6. Determine the central ratio of the jaws with defects of the dentition of group IV
7. Conduct plaster jaw models in the articulator
8. Make teeth on the glass
9. Check the design of a complete removable prosthesis
10. Describe the laboratory stages of manufacturing complete removable dentures
11. Evaluate the fixation of complete removable dentures
12. Carry out the correction of complete removable dentures

### **Semester 8 "Maxillofacial Orthopedics"**

1. Carry out differential diagnosis in order to establish the diagnosis of various fractures of the maxillofacial area
2. Conduct a clinical examination of patients with fractures of the jaws
3. Be able to distinguish between different types of maxillofacial devices. Components. Methods of application
4. Be able to perform a simple ligature bonding of teeth according to Limberg, Ivy
5. Be able to use different types of transport tires and know the algorithm of their use
6. Be able to get fingerprints in patients with microstomy
7. Be able to fit a prosthesis
8. Making a face mask

### **LIST OF QUESTIONS FOR THE EXAM FROM THE DISCIPLINE "ORTHOPEDIC DENTISTRY"**

#### **Semester exam program in orthopedic dentistry for fourth-year students of the dental faculty**

1. The subject of orthopedic dentistry, its content, goals and objectives. Relationship of orthopedic dentistry with other sciences. The role of domestic scientists.
2. Organization of the workplace of a dentist-orthopedist, safety, basics of occupational hygiene and prevention of occupational diseases.
3. Outpatient admission of patients in the department of orthopedic dentistry. Accounting and financial documentation. Outpatient medical history as a scientific, medical and legal document. Design rules.
4. The concept of disease. The main dental diseases subject to orthopedic treatment. Types of dentures, their classification, characteristics of clinical use.
5. Examination of the patient in the clinic of orthopedic dentistry. Formulation of the diagnosis. Selection and substantiation of methods of orthopedic treatment / prosthetics / and drawing up a treatment plan.
6. Odontoparodontogram for V. Yu. Courland and its analysis.
7. Functional chewing test according to SE Gelman. Methods of conducting.
8. Graphic methods of studying the movements of the mandible during the function of chewing. Masticociography. Electromyography. Their analysis before and after orthopedic treatment.
9. Methods of preparing a dental patient for orthopedic treatment. Fundamentals of medical ethics and deontology.
10. Anatomical and functional structure of the periodontium. Function and endurance of periodontium to masticatory pressure. Reserve forces of the periodontium.
11. Anatomy of the dentition, their shape and structure on the upper and lower jaws. Factors that ensure the stability of the teeth.
12. The main anatomically oriented groups of teeth and their anatomical and functional characteristics.
13. The structure and development of the human dental and maxillofacial system. Influence of function on the formation and development of the dental-maxillary system.
14. Muscles that drive the jaw, and their distribution according to the function performed.
15. Comparative characteristics of teeth, dentition and temporomandibular joint in animals and humans. Interdependence of form and function.
16. Temporomandibular joint. Age features. Joint formation under the influence of function and occlusion.

17. Types of pathological bites, their characteristics.
18. Bite. Definition. Classification. Functional and morphological characteristics of orthognathic occlusion.
19. Facial muscles. Muscles of the tongue, soft palate, their role in the functions of chewing and swallowing, speech and breathing.
20. Lateral movements of the lower jaw and muscles that ensure their implementation. The nature of the movement of the articular heads. The concept of working and balancing side.
21. Sagittal movements of the lower jaw and the muscles that perform them. The nature of the movement of the articular heads during these movements.
22. Articulation. Definition. Vertical movements of the lower jaw and the muscles that perform them.
23. Anatomy of the face and its age. Anthropometric patterns. Physiological rest of the lower jaw.
24. Definition of "chewing force", "chewing pressure", "chewing efficiency". Methods for determining the loss of masticatory efficiency.
25. Physiology of the act of chewing according to IP Pavlov. Influence of the act of chewing on the secretory and motor function of the gastrointestinal tract. Chewing reflexes.
26. The mechanism of the act of chewing and swallowing. The role of the chewing function in the formation of the masticatory apparatus.
27. Articulation. Occlusion. Types of occlusion and their characteristics.
28. The concept of dental materials science. Classification. Medical-biological, physical-mechanical and technological requirements.
29. Medical plaster. Characteristics and methods of plaster application for casting of prosthetic bed models. Stages of casting a gypsum model.
30. Imprint materials and requirements for them. Classification.
31. Structural / basic / dental materials and requirements for them. Characteristic.
32. Thermoplastic impression materials. Characteristic. Methods of obtaining impressions of the prosthetic bed and casting of plaster models.
33. Alginate impression materials. Characteristic. Methods of obtaining impressions and casting of gypsum models.
34. Basic plastics. Characteristics and methods of preparation of base plastics for polymerization. Stages / phases / polymerization. Varieties of plastic porosity, causes, prevention.
35. Mode of polymerization of plastics in anhydrous medium under air pressure.
36. Replacement of wax reproductions with plastic. Reverse plastering. The polymerization mode of base plastics.
37. Silicone impression materials. Characteristic. Methods of obtaining combined prints and casting models.
38. Characteristics of plastics for fixed prostheses. Methods of selection "Sinma-M" for plastic crowns according to the color of the teeth.
39. Characteristics of self-hardening plastics and methods of preparation of molding compound. The polymerization mode of self-hardening plastics in compressed air.
40. Artificial teeth made of plastic and porcelain. Comparative characteristics of positive and negative properties.
41. Modeling and molding materials. Characteristic.
42. Metal alloys for dentures. Characteristic.
43. Materials for fixing fixed prostheses. Characteristic. Method of preparation of cement for fixing fixed prostheses. Possible complications, causes and prevention.
44. Defects of hard tissues of teeth. Etiology. Pathogenesis. Clinic. Indications for orthopedic treatment. Types of prostheses.
45. Classification of cavities in the coronal parts of the teeth. Indications for treatment with tabs. Comparative characteristics of methods for replacing defects of dental crowns with tabs and fillings.
46. Direct method of making a tab. Clinical and laboratory stages of orthopedic treatment with cast / metal / tabs.
47. Indirect method of making a tab. Clinical and laboratory stages of treatment with porcelain tabs.
48. Method of fixing the tab in the tooth cavity / cementation /. There may be complications when fixing the tab. Reasons. Prevention.
49. Artificial crowns. Classification. Indications for use. Requirements for artificial crowns.
50. Complete stamped crowns. Characteristic. Indications for use. Clinical and laboratory stages of orthopedic treatment.

51. Method of tooth preparation for a complete metal stamped crown and anesthesia. Requirements for the stump of the prepared tooth.
52. Plastic crowns. Characteristic. Indications for use. Construction materials for artificial crowns. Clinical and laboratory stages of orthopedic treatment.
53. Semi-crowns and three-quarter crowns. Characteristic. Indications for manufacture. Teeth preparation technology and laboratory stages of manufacture.
54. Porcelain crowns. Characteristic. Construction materials. Indications for use. Clinical and laboratory stages of orthopedic treatment.
55. Metal-ceramic crowns. Characteristic. Indications for manufacture. Clinical and laboratory stages of orthopedic treatment.
56. Metal-plastic crowns. Characteristic. Indications for use. Clinical and laboratory stages of orthopedic treatment.
57. Method of tooth preparation for plastic and porcelain crowns. Requirements. Possible complications. Reasons. Prevention.
58. Preparation of teeth for fixed dentures. Tools. Complication. Prevention. Methods of anesthesia for tooth preparation.
59. Total defect of the crown of the tooth. Etiology. Pathogenesis. Clinic. Indications for treatment with pin structures.
60. Types of pin teeth. Comparison. The choice of pin design depending on the condition of the gingival part of the tooth root. Requirements for elements of pin teeth.
61. Preparation of the supragingival stump of the root part of the tooth depending on the design of the crown with a pin. Complication. Reasons. Prevention.
62. Pin tooth with an outer ring / according to Richmond /. Characteristic. Indications for manufacture. Clinical and laboratory stages of manufacture.
63. Pin tooth with a tab by Ilyina-Markisyana. Characteristic. Indications for manufacture. Clinical and laboratory stages of manufacture.
64. Cookie tab. Characteristic. Indications for manufacture. Clinical and laboratory stages of manufacture.
65. Defects of dentitions. Etiology. Pathogenesis. Clinic. Kennedy classification.
66. Defects of dentitions. Types of dentures. Comparative characteristics of their positive and negative properties.
67. Examination of a patient with defects of the dentition. Formulation of the diagnosis.
68. Features of construction of fixed bridges depending on the defect of the dentition, the condition of the abutment teeth and their antagonists.
69. Physiological reserves of the periodontium. Causes of functional overload of abutment teeth or antagonist teeth in the treatment of bridges. Prevention.
70. Features of preparation of abutment teeth for the manufacture of bridges. Requirements for the stump of the tooth under the supporting elements of the bridge. Possible complications. Reasons. Prevention.
71. Stainless steel bridges with cast intermediate part. Characteristic. Indications for manufacture. Clinical and laboratory stages of orthopedic treatment.
72. Non-removable bridges with a combined intermediate part. Characteristics, indications for manufacture. Clinical and laboratory stages of treatment.
73. Metal-ceramic bridge prostheses. Characteristics, indications for manufacture. Clinical and laboratory stages of treatment.
74. Metal-plastic bridge prostheses. Characteristics, indications for manufacture. Clinical and laboratory stages of treatment.
75. Fixed bridge prostheses made of plastic. Characteristic. Indications for manufacture. Clinical and laboratory stages of treatment.
76. Atypical constructions of bridges and their choice depending on the nature of the pathology of the dental-maxillary system.
77. Verification of the design and method of fixation / cementation / bridges. Causes of cementation of the bridge. Prevention.
78. Methods of determination and fixation of central occlusion in the treatment of bridge structures.
79. Causes of inflammatory processes of the mucous membrane under the intermediate part of the bridge and near the edge of the supporting crowns. Indications for removal of a fixed bridge. Method.



80. Biological, clinical and mathematical justification for the choice of treatment method with fixed bridge structures. Parts of a bridge prosthesis and their characteristics.
81. Partial removable plate structures. Terms of orthopedic treatment. Types of prostheses and their characteristics.
82. Biological, clinical and mathematical justification for the choice of treatment with partial removable plate prostheses.
83. Defects of dentitions. Selection of abutment teeth for clasp fixation. Defining the boundaries of the basis. Selection of artificial teeth and method of their installation.
84. Features of construction of a partial lamellar prosthesis depending on localization of defect of a dentition and anatomy of a jaw.
85. Clinical and laboratory stages of treatment of dentition defects with removable plate structures.
86. Check the design of a partial removable prosthesis in the occluder and oral cavity. Inaccuracies and their elimination are possible.
87. Imposition of partial removable structures on the prosthetic bed. Methods of their correction. Recommendations to the patient. Phases of adaptation to dentures.
88. Possible complications when using partial plate prostheses. Method of clasp transfer, tooth welding. Correction of articulation, relocation and adjustment of the base.
89. Replacement of the wax base of a partial removable prosthesis with plastic by the method of reverse plastering in a ditch. Polymerization mode.
90. Fixation of partial removable dentures. Clamps and their characteristics. Clasp lines.
91. Fitting and imposition of a removable plate structure on the prosthetic bed. Phases of adaptation. Hygienic bases of maintenance of prostheses.
92. Biological and clinical justification of the choice of method of treatment with clasp prostheses. Parts of the clasp prosthesis design and their characteristics.
93. Comparative characteristics of the design of clasp dentures in I, II, III classes of dentition defects according to Kennedy.
94. Planning the design of the frame of the clasp prosthesis depending on the location and length of the defect of the dentition and the anatomical features of the prosthetic bed.
95. Biomechanics of a clasp prosthesis: statics and dynamics of "included" and "final" saddle. Types of connection of brackets with a framework.
96. Technology of production of solid frames of clasp prostheses. Clinical and laboratory stages of treatment.
97. Parallelometry of gypsum models of jaws. Targets. Task. Methods.
98. Fixing elements of clasp prostheses. Characteristic. Staple system Her. The choice of brackets depending on the defects of the dentition and the condition of periodontal tissues.
99. Possible complications in the treatment of clasp prostheses. Reasons. Prevention.
100. Crowns for support and retaining clasps and attachments. Characteristic. Indications for the use of telescopic crowns. Features of tooth preparation for these types of fixing elements.
101. Determination of central occlusion in I, II, III and IV groups of defects according to Betelman.
102. Replacement of wax reproductions of prostheses with basic plastic. Method. Polymerization mode. Types of porosity. Reasons. Prevention.
103. Toothless jaws. Etiology. Pathogenesis. Clinic. Classification of edentulous jaws.
104. Examination of a patient with edentulous jaws. Formulation of the diagnosis. Registration of medical history.
105. The mucous membrane of the lower jaw. Topography of bridges and folds. The concept of "neutral zone". The boundaries of the base of the functional-suction prosthesis, the requirements for the edge of its base.
106. The mucous membrane of the upper jaw. Topography of bridges and folds. The concept of line "A". The boundaries of the base on the "A" line.
107. Methods of fixation and stabilization of complete removable dentures and the factors that provide them.
108. Impressions from the prosthetic bed. Classification. The difference between a functional imprint and an anatomical one. Methods of obtaining a functional imprint.
109. Anatomical, anthropometric, anatomical-physiological and functional methods for determining the height of the central ratio. Their comparative characteristics.
110. Methods for determining the height of physiological rest and the central ratio of the jaws in patients with edentulous jaws functional method. Task. Sequence. Causes of possible errors and their prevention.

111. Simultaneous production of individual spoons and obtaining a functional suction impression.
112. Classification of functional prints according to the degree of squeezing of the mucous membrane. The method of obtaining a functional-absorbing imprint in the conditions of using the force of masticatory muscles.
113. The problem of stabilization of removable structures on prosthetic beds with edentulous jaws, their practical significance. The laws of articulation of Bonneville, Giza, and others.
114. Construction of artificial dentitions in the articulator and occluder on glass and individual occlusal curves. Comparative characteristics of production methods.
115. Anatomical setting of teeth. Methods of individualization of teeth placement in complete removable dentures.
116. Imposition of a complete plate structure on a prosthetic bed. Recommendations for the patient to use, respectively, during periods of adaptation. Articulation correction technique.
117. Allergic reactions to denture materials.
118. Types of toothless jaws. Factors contributing to the development of atrophy and their prevention. Classification.
119. Anatomy of the upper edentulous jaw. Classification of types of edentulous jaws. Anatomical features that are important for fixation and stabilization of the plate prosthesis. Method of obtaining a functional imprint.
120. Anatomy of the lower edentulous jaw. Classification of types of lower edentulous jaws. Anatomical features that are important for fixation and stabilization of the plate prosthesis. Method of obtaining a functional imprint.
121. The mucous membrane of the upper jaw. Zones behind Lund, Gavrilov. Their value for prosthetics. The boundaries of the prosthesis on the "A" line depending on the class of the mucous membrane according to Supli.
122. The mucous membrane of the lower jaw. Classification by Supply. Topography of retro-molar and retromandibular spaces. Values for prosthetics.
123. Methods of fixing removable structures on prosthetic beds. Characteristic. Neutral zone as a functional formation and its significance for a functional suction prosthesis.
124. Possible complications when using plastic removable dentures. Methods of base repair, tooth welding, relocation, re-articulation.
125. Clinical and laboratory stages of treatment of patients with one edentulous jaw with a removable functional-suction prosthesis.
126. Treatment of patients with edentulous jaws with complete removable dentures with porcelain teeth. Indication. Positive and negative properties.
127. The sequence of manipulations in determining the height of the central ratio by the functional method.
128. Clinical and laboratory stages of treatment of patients with edentulous jaws with plate prostheses.
129. Methods of fixation, stabilization and balance of complete dentures. Methods of obtaining an impression under the force of masticatory muscle pressure.
130. Methods for determining the central ratio of the jaws in patients with edentulous jaws. Causes of possible errors and their prevention.
131. Organization of orthopedic dental care in the Armed Forces of Ukraine in peacetime.
132. Organization of orthopedic dental care in the Army.
133. Features of providing dental care in the current Army.
134. Indications and contraindications to dental prosthetics of the Armed Forces personnel.
135. Injuries to the person. Clinic. Indications and contraindications to orthopedic treatment. Types of devices. Possible complications. Emergency aid.
136. Defects of dentitions and edentulous jaws complicated by microstomy. Clinic. Methods of obtaining impressions and designing prostheses.
137. Gunshot wounds and injuries of the upper jaw. Clinic. Orthopedic methods of prevention of possible complications in surgical treatment. Clinical and laboratory stages of manufacturing protective plates.
138. Postoperative defects of the palate. Clinic. Indications for the use of resection prostheses, requirements for them. Clinical and laboratory stages of treatment.
139. Fractures of the lower jaw. Clinic. Orthopedic treatment in complex therapy. Clinical and laboratory stages of Weber tire manufacturing.
140. Fractures of edentulous jaws. Clinic. Orthopedic treatment in complex therapy. Clinical and laboratory stages of Porto tire treatment.

141. Defects of the hard and soft palate due to injuries and operations. Clinic. Orthopedic treatment. Types of obturators, indications for use.
142. Defects of the face due to injuries and burns. Clinic. Treatment. Methods of making ectoprostheses. Methods of their fixation.
143. Clinical and laboratory stages of treatment of patients with defects of hard and soft palate with an obturator according to Ilyana-Markisyana.
144. Clinical and laboratory stages of treatment of patients with defects of hard and soft palate with an obturator of the Suersen type.
145. Clinical and laboratory stages of treatment of patients with soft palate defects with a floating obturator type Keza.

### 3.3. Control questions and tasks for independent work

Independent work of students, which is provided by the topic of the lesson along with classroom work, is assessed during the current control of the topic in the relevant lesson.

**Topic 31.1.** Examination of the patient's oral cavity in the complete absence of teeth.

**Topic 32.1.** Making individual spoons for the upper and lower jaws.

**Topic 33.1.** Classification of functional prints from the upper and lower jaws.

**Topic 34.1.** Biomechanics of mandibular movements.

**Topic 35.1.** Principles of work with the articulator at prosthetics of patients with edentulous jaws.

**Topic 36.1.** Checking the design of complete removable dentures.

**Topic 37.1.** Fixation of complete removable dentures.

**Topic 38.1.** Emergency dentistry

**Topic 39.1.** Maxillofacial orthopedics.

**Topic 39.1.** General characteristics of maxillofacial devices and their classification.

**Topic 41.1.** Etiology, pathogenesis, clinic of mandibular contractures and fractures that fused incorrectly.

**Topic 42.1.** The use of orthopedic devices in osteoplasty and soft tissue plastics of the maxillofacial area.

**Topic 43.1.** Microstomy. Etiology, clinic.

**Topic 44.1.** Prevalence, etiology, pathogenesis and orthopedic treatment of hard and soft palate defects.

**3.4. Individual tasks**(the list approved at the meeting of the department with the determination of the number of points for their performance, which can be added as incentives):

1. Preparation of a review of the scientific literature on the topics being studied.
2. Writing essays on topics:
  - Types and classification of fixed prostheses.
  - Types and classification of removable dentures.
  - Features of tooth preparation for different types of artificial crowns.
  - Anesthesia in orthopedic dentistry.
  - Mechanical, physical, chemical and biological properties of dental materials.
  - Classification of defects of dental crowns.
  - Classification of dentition defects.
  - Types of fixation of partial removable prostheses and their characteristics.
  - Methods of teeth placement in removable dentures.

**Assessment of individual tasks of the student** carried out for the tasks of research and teaching staff:

- report of the abstract on practical lesson 0 - 2 points;
- report with presentation at the practical lesson 0 - 3 points,
- report at scientific and practical conferences of the department, university, writing abstracts, articles 0 - 5 points;
- participation in the All-Ukrainian Olympiad - 5 - 10 points

Points for individual tasks of the student (in total not more than 10 points) can be added as an incentive additional points to the final score for current learning activities, calculated using Table 2 and are part of the assessment of the discipline.

**3.4. Individual tasks**(the list approved at the meeting of the department with the determination of the number of points for their performance, which can be added as incentives):

Types of individual research work of students are the preparation of reports and presentations in accordance with the thematic plan of the module, as well as participation in the work of a scientific student group in orthopedic dentistry.

### 3.5. Other incentives

**Assessment of individual tasks applicant** (hereinafter - IZZ) contribute to a more in-depth study of the theoretical material by the student, the formation of skills to use knowledge to solve relevant practical problems. IE is performed by the applicant independently with the receipt of the necessary advice from the researcher.

- report of the student's abstract on a practical lesson 0 - 2 points;
- report with presentation at the practical lesson 0 - 3 points,
- report at scientific and practical conferences of the department, university, writing abstracts, articles 0 - 5 points;
- participation in the All-Ukrainian Olympiad - 5 - 10 points

SRI is evaluated in points (not more than 10), which are added to the points scored for ZND at the end of the study of the discipline, when conducting a "test".

The total amount of points for ZND and IZZ cannot exceed 200 points.

### 3.6. Rules for appealing the assessment

The appeal of the assessment received by the applicant of higher education is carried out according to

"Regulations on the appeal of the results of the final control of students of KhNMU", approved by the Order of KhNMU from 30.09.2020 No. 252.

## 4. DISCIPLINE POLICY

In order to successfully complete the relevant course, it is necessary to regularly attend practical classes; to have theoretical preparation for practical classes according to the subject; not to be late and not to miss classes; perform all necessary tasks and work in each lesson; be able to work with a partner or in a group; contact the curators of the course on various issues on the subject of classes and receive it when you need it.

Applicants for education can discuss different tasks, but their implementation is strictly individual. It is not allowed to write off, use various software, tips, use a mobile phone, tablet or other electronic gadgets during classes for purposes other than the educational process. Students are not allowed to be late for practical classes.

Applicants for education with special needs can meet with the researcher and warn him before the start of classes, at the request of the student, this can be done by the head of the group. If you have any questions, please contact the researcher.

The participation of students in conducting research and conferences on this topic is encouraged.

All students of KhNMU are protected by the Regulations on Prevention, Prevention and Settlement of Cases Related to Sexual Harassment and Discrimination at Kharkiv National Medical University, designed to define an effective mechanism for resolving conflict situations related to discrimination and sexual harassment. This Regulation is developed on the basis of the following normative legal acts of Ukraine: the Constitution of Ukraine; Law of Ukraine "On Education"; Law of Ukraine "On Higher Education"; Law of Ukraine "On Principles of Preventing and Combating Discrimination in Ukraine"; Law of Ukraine "On Ensuring Equal Rights and Opportunities for Women and Men"; Convention for the Protection of Human Rights and Fundamental Freedoms; Convention for the Suppression of Discrimination in Education; Convention on the Elimination of All Forms of Discrimination against Women; General Recommendation № 25 to paragraph 1 of Article 4 of the Convention on the Elimination of All Forms of Discrimination against Women; General Comment № 16 (2005) "Equal rights for men and women to enjoy economic, social and cultural rights" (Article 3 of the International Covenant on Economic, Social and Cultural Rights; UN Economic, Social and Cultural Rights Committee); Recommendations on education in the spirit of international mutual understanding, cooperation and peace and education in the spirit of respect for human rights and fundamental freedoms (UNESCO), the Concept of the State Social Program for Equal Rights and Opportunities for Women and Men until 2021. Kharkiv National Medical University provides

education and work that is free from discrimination, sexual harassment, intimidation or exploitation. The University recognizes the importance of confidentiality. All persons responsible for the implementation of this policy (staff of deans' offices, faculties, institutes and the Center for Gender Education, members of the student government and ethics committee, vice-rector for research and teaching) are confidential about those who report or accuse of discrimination. or sexual harassment (except where the law requires disclosure and / or when disclosure by the University is necessary to protect the safety of others).

KhNMU creates a space of equal opportunities, free from discrimination of any national, racial or ethnic origin, sex, age, disability, religion, sexual orientation, gender, or marital status. All rights, privileges, programs and activities granted to students or employees of the University apply to all without exception, provided they are properly qualified. The anti-discrimination policy and the policy of counteracting sexual harassment of KhNMU are confirmed by the Code of Corporate Ethics and the Charter of KhNMU.

### **Behavior in the audience**

It is important for students to follow the rules of good behavior at the university. These rules are common to all, they also apply to all faculty and staff, and are not fundamentally different from the generally accepted norms.

During classes

- allowed:
  - to leave the audience for a short time if necessary and with the permission of the researcher;
  - drink soft drinks;
  - take photos of presentation slides;
  - take an active part in the lesson).
- forbidden:
  - eat (except for persons whose special medical condition requires another - in this case, medical confirmation is required);
  - smoking, drinking alcohol and even low-alcohol beverages or drugs;
  - to use obscene language or use words that offend the honor and dignity of colleagues and faculty;
  - gaff;
  - to damage the material and technical base of the university (damage inventory, equipment; furniture, walls, floors, litter the premises and territories);
  - shouting, shouting or listening to loud music in classrooms and even in corridors during classes.

### **5. ACADEMIC INTEGRITY**

The Department of Orthopedic Dentistry maintains zero tolerance for plagiarism. Applicants are expected to constantly raise their awareness of academic writing. The first classes will provide information on what to consider plagiarism and how to properly conduct research and scientific research.

### **Occupational Health**

The first lesson of the course will explain the basic principles of labor protection by conducting appropriate training. It is expected that every higher education seeker should know where the evacuation exit closest to the audience is, where the fire extinguisher is, how to use it, and so on.

### **6. RECOMMENDED LITERATURE**

1. Gasyuk PA, Kostenko EY, Machogan VR, Rosolovskaya SO, Vorobets AB, Radchuk VB Stud Book of Orthopedic Dentistry. Ternopil-Uzhhorod. 2018. - 369 p.
2. Rozhko MM, Nespryadko VP, Mikhaillenکو TN etc. Dental prosthetic equipment. - К .: Книга-плюс, 2018. - 604 с.
3. Dentistry. Textbook. In 2 books. - Book. 1 / MM Rozhko, ZB Popovich, VD Kuroyedova and others; for order. Prof. M.M.Рожка. - К .: ВСВ «Медицина», 2020. - 872 с.

4. Gasyuk PA Almanac of orthopedic dentistry // PA Gasyuk, E. Ya. Kostenko, VR Machogan, SO Rosolovskaya, AB Vorobets // Ternopil: Bogdan - 2018. - 352p .
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## **8. OTHER**

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