

PRIVATE HIGHER EDUCATIONAL INSTITUTION
"INTERNATIONAL ACADEMY OF ECOLOGY AND MEDICINE"
Department of Dentistry

SYLLABUS
EDUCATIONAL DISCIPLINE

«Propedeutics to orthopedic dentistry»

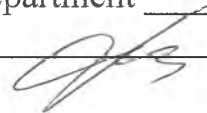
LEVEL OF HIGHER EDUCATION The second (master's) level

DEGREE OF HIGHER EDUCATION Master

FIELD OF KNOWLEDGE 22 Healthcare

SPECIALTY 221 Dentistry

COURSE 2

Considered and approved
at a meeting of the Department of Dentistry
Protocol № 1 from «01» 09 2020 p.
Acting head of the department _____
MD, prof.  Kuts P.V.

Kiev 2020

1. General information	
Subject	Propedeutics to orthopedic dentistry
Lector	Acting Head of the Department, Doctor of Medical Sciences, Professor, Kuts Pavlo Valeriyovych, Al-Gburi Waleed K Hameed Bida Alexander Vitalievich Goropatska Anna-Maria Olehivna
Teacher's e-mail	forum-for-me@bigmir.net
Discipline format	Normative discipline.
The volume of the discipline	120 hours , 4 ECTS
Link to the distance learning site	maem.kiev.ua
Consultations	Web conferences in various programs (Zoom, Skype, Myit, Jitsy, Teams, Viber, Facebook, Cisco Webs). Exchange tasks via e-mail, Wandrive
2. Annotation to the course	
<p>Propaedeutics of orthopedic dentistry is a discipline that:</p> <ul style="list-style-type: none"> • a) is based on the study of morphological disciplines, physiology, pharmacology, pathomorphology, pathophysiology, propaedeutics of orthopedic dentistry by students and integrates with these disciplines; • b) lays the foundations for students to study theoretical knowledge, mastering practical skills and abilities in orthopedic dentistry, which involves the integration of teaching the discipline with therapeutic, surgical and dental dentistry and the formation of skills to apply knowledge and skills in professional activities; • c) forms a future specialist who is able to solve clinical problems using the acquired knowledge and skills in the discipline, lays the foundations of a healthy lifestyle and prevention of dysfunction in the process of life. <p>Types of educational activities of students according to the curriculum are: a) lectures, b) practical classes, c) independent work of students (VTS).</p> <p>The topics of the lecture course reveal the problematic issues of the relevant sections of orthopedic dentistry.</p> <p>Practical classes according to the method of their organization are clinical, because they provide:</p> <ol style="list-style-type: none"> 1) examination of patients in the clinical office with the use of dental equipment and tools; 2) analysis of diagnostic models of patients with different types of pathology of the dental apparatus, the choice of methods for the restoration of defects of teeth and dentition; 3) development by students of practical skills during clinical reception of thematic patients, 4) solving situational problems (evaluation of diagnostic models, occludograms, X-ray examination data, etc.) that have a clinical direction, as well as solving test situational problems. <p>Students in practical classes, during the clinical admission of patients fill in the medical card of the examined patient, and it is recommended to fill in other reporting documents (diary of the doctor, work orders for dental work).</p>	
3. Purpose and objectives of the course	
<p>The purpose of teaching the discipline "propaedeutics of orthopedic dentistry" is to be able to:</p> <p>Analyze the health of patients on the basis of survey data.</p> <p>Identify and document the leading clinical symptom or syndrome using history and examination of patients.</p> <p>Carry out differential diagnosis of dental diseases using data from laboratory and instrumental examination of patients, the most probable or syndromic diagnosis.</p> <p>Formulate the most probable nosological or syndromic diagnosis of a dental disease by comparison with standards, using medical history and examination of the patient, based on the leading clinical</p>	

symptom or syndrome.

To determine the principles of treatment of dental diseases on the basis of preliminary or final clinical diagnosis according to existing algorithms and standard schemes.

Classify treatments based on previous or final clinical diagnosis.

Demonstrate mastery of methods of applying standards of outpatient dental care.

To reveal the content of the dental patient treatment scheme on the basis of a preliminary diagnosis, in compliance with the relevant ethical and legal norms.

Assess information about the state of dental health of the population in relation to the factors that affect it.

Categorize, process and analyze the necessary medical information from a specific source using modern information technology.

Develop standard technologies for keeping medical records (ambulatory card, medical history, work diary, summary information) for the patient.

The main tasks of studying the discipline "propaedeutics of orthopedic dentistry" are to teach students:

- to examine the dental patient;
- interpret the functional anatomy of the dental apparatus;
- apply the basic principles of asepsis, antiseptics, anesthesia;
- analyze the results of the examination of a dental patient in the clinic of orthopedic dentistry;
- substantiate and formulate a preliminary clinical diagnosis in the clinic of orthopedic dentistry;
- to examine patients with functional methods,

as well as to adapt students' knowledge of normal anatomy to the requirements of the clinic of orthopedic dentistry for the clinical use of this knowledge in the manufacture of orthopedic structures, preparation of the oral cavity for prosthetics. To study the functional groups of masticatory and facial muscles, their attachment, function.

4. Competencies and learning outcomes

Learning outcomes	Teaching methods
Possess modern dental manipulations in the treatment of odontopathologies	Lectures, practices, oral interviews, tests, dialogue with applicants for higher education, creative work with the creation of multimedia presentations and their presentation, independent work with literary sources

In accordance with the requirements of the Standard of Higher Education, the discipline ensures the acquisition of competencies by students (interrelation with the normative content of training of applicants for higher education, formulated in terms of results in the Standard).

Integral:

1. Ability to solve problems and problems in the field of health care by specialty
2. "Dentistry" in professional activities or in the learning process, which involves research and / or innovation.

General:

1. Ability to abstract thinking, analysis and synthesis; ability to learn and be modernly trained
2. Knowledge and understanding of the subject area and understanding of the profession
3. Ability to apply knowledge in practical situations
4. Ability to communicate in the state language both orally and in writing. Ability to communicate in other languages
5. Skills in the use of information and communication technologies
6. Ability to search, process and analyze information from various sources
7. Ability to adapt and act in a new situation, the ability to work autonomously
8. Ability to identify, pose and solve problems
9. Ability to choose a communication strategy
10. Ability to work in a team

11. Interpersonal skills.
12. Ability to act on ethical considerations
13. Skills for safe activities
14. Ability to evaluate and ensure the quality of work performed
15. The desire to preserve the environment
16. Ability to act socially responsibly and civically consciously

Special:

1. Recognize the moral, ethical and professional rules of the dentist-orthopedist
2. Awareness of moral and deontological principles of medical specialization, the rules of professional subordination in the clinic of orthopedic dentistry
3. Promoting a healthy psychological microclimate in the team, mastering the legal norms of the relationship of legal norms of the relationship "doctor-dentist-orthopedist - patient".
4. Acquaintance with the structure of the orthopedic office, department, dental laboratory. Study of the basic dental tools used in the clinic of orthopedic dentistry. Demonstration on phantoms of the ability to use basic dental tools, use dental and dental equipment. Demonstration on phantoms of the course of examination of an orthopedic patient. Demonstration on phantoms of anatomical formations of the maxillofacial area.
5. Demonstration of work with different types of impression materials and taking impressions
6. Knowledge of technological stages of preparation of different types of orthopedic structures used for orthopedic rehabilitation of patients.
7. Distinguishing the features of the application of the principles of asepsis and anti-septic in the clinic of orthopedic dentistry. Study of modern requirements for sterilization of instruments in the clinic of orthopedic dentistry. Awareness of the importance of following the rules of asepsis and antiseptics in the clinic of orthopedic dentistry. Assimilation of norms of control over sterilization efficiency. Determination of methods to prevent the spread of infection in the department of orthopedic dentistry.

5. Organization of course training

The volume of the course

Type of lesson	<i>Total amount of hours</i>
Lectures	6
Practical classes	64
Independent work	50

Course signs

Semester 3-4	Specialty <u>221 Dentistry</u>	Course (year of study) 2	Normative discipline

Course thematics

THEMATIC PLAN OF LECTURES ON THE DISCIPLINE "PROPEDEUTICS OF ORTHOPEDIC DENTISTRY"

№	Topic	Hours
1	Orthopedic dentistry. Content, purpose and objectives. Organizational principles of the orthopedic department., The main dental diseases subject to orthopedic treatment. Medical documentation. Examination of patients.	2

2	Methods of obtaining anatomical prints and models. Imprints and their characteristic. Imprint materials.	2
3	Pathology of the hard tissues of the tooth. Artificial crowns, removable and non-removable prostheses. Metals and alloys in the clinic of orthopedic dentistry.	2
	Total	6

**THEMATIC PLAN OF PRACTICAL CLASSES IN THE DISCIPLINE
"PROPEDEUTICS OF ORTHOPEDIC DENTISTRY"**

№	Topic	Hours
МОДУЛЬ 1		
Content module 1. Functional anatomy of the masticatory apparatus		
1.1	Functional anatomy of the masticatory apparatus. Anatomical structure of the lower and upper jaws. Chewing and facial muscles. Structure, function, purpose.	2
1.2	Structure of teeth, dentitions. Characteristics of dental arches. Structure and function of the periodontium. Features of the structures of the oral mucosa cavity.	2
1.3	Temporomandibular joint. Anatomical structure, basic elements of the joint, function. Comparative characteristics of joints predators, rodents and ruminants. Relationship between the shape and function of the temporomandibular joint. Planes of comparison.	2
1.4	Articulation and occlusion. Types of occlusion. Substantive provisions, characterizing occlusal relations.	2
1.5	Bite. Types of bite. Characteristics of orthognathic occlusion.	2
1.6	Biomechanics of mandibular movements. Chewing and movements of the lower jaw in physiological conditions.	2
1.7	Apparatus that reproduce the movements of the lower jaw.	2

1.8	Scheme of neuromuscular regulation of the functions of the dental system. Anatomical features of innervation of tissues of the maxillofacial area, their significance for conductive anesthesia. Anesthesia zones during peripheral anesthesia on the upper and lower jaws.	2
	Total	16
Content module 2. Organization of orthopedic care. Examination methods.		
1.9	Organizational principles of the orthopedic department. Clinic equipment. Study of the organization of the workplace of an orthopedist, tools. Safety precautions.	2
1.10	Organizational principles of the dental laboratory. Acquaintance with the workplace of a dental technician and special premises of a dental laboratory. Safety precautions.	2
1.11	Medical documentation. Examination of patients in an orthopedic clinic dentistry. Rules for filling in the medical history of an orthopedic patient.	2
1.12	Clinical methods of examination of orthopedic patients.	2
1.13	Paraclinical methods of examination of orthopedic patients.	2
1.14	Classification of diseases of the dental and maxillofacial system. Formulation of the diagnosis.	2
1.15	Final lesson.	2
	Total	14
МОДУЛЬ 2		
Content module 3. Imprints and imprint materials		
2.1	Classification of impression materials and prints. General requirements for impression materials and prints. Impression spoons and their varieties.	2
2.2	Crystallizing and thermoplastic impression materials. Physico-chemical properties. Indications for use, representatives. Methods of obtaining prints with these materials.	2
2.3	Alginate impression masses. Physico-chemical properties. Indications for use, representatives. Alginate fingerprint technology masses.	2

2.4	Silicone impression masses. Classification. Physico-chemical properties. Indications for use, representatives. Technology of taking impressions by silicone masses.	2
2.5	Polyester impression masses. Physico-chemical properties. Indications for use, representatives. Polyester fingerprint technology masses.	2
2.6	Rules for selection of impression material and spoons. Technological stages of fingerprinting depending on the method and the selected material.	2
2.7	Classification of jaw models. Production of models and rules of registration of their socle. Materials for making models. Rules for plastering models in the occluder and articulator.	2
2.8	Disinfection of prints. Choice of means according to type of material. Asepsis and antiseptics in dentistry. Basic principles.	2
2.9	Imprints and imprint materials (final lesson)	2
	Total	18
Content module 4. Materials and technological features of manufacturing basic orthopedic structures		
2.10	Clinical picture of pathological conditions of the dental area. (Defects of the hard tissues of the tooth, partial and complete loss of teeth.)	2
2.11	Tabs. Classification. Design features. Characteristic basic and auxiliary materials used for the manufacture of tabs.	2
2.12	Artificial crowns. Metal, plastic, ceramic. Design features. Characteristics of the main and auxiliary materials used for the manufacture of crowns.	2
2.13	III Artificial combined crowns. Classification. Design features. Characteristics of the main and auxiliary materials used for the manufacture of combined crowns.	2
2.14	Bridge prostheses. Classification. Design features. Characteristics of the main and auxiliary materials used for the manufacture of bridges.	2

2.15	Removable prosthesis designs (partial and full removable plate prostheses). Classification. Design features. Characteristics of the main and auxiliary materials used for manufacturing removable 2 constructions of prostheses.	2
2.16	Clasp prostheses. Design features. Characteristics of the main and auxiliary materials used for manufacturing	2
2.17	Differential credit	2
	Total	16
	Total	64

THEMATIC PLAN OF INDEPENDENT WORK ON THE DISCIPLINE
"PROPEDEUTICS OF ORTHOPEDIC DENTISTRY"

№	Topic	Hours	type of control
Content modules 1-2			
I	constant elaboration of topics:		
1	History of development of orthopedic dentistry. The contribution of Ukrainian scientists to the development of orthopedic dentistry. Lviv School of Orthopedic Physicians-dentists.	5	Current control in practical classes
2	Anatomical structure of the upper and lower jaws. Transfer of masticatory pressure to the bones of the facial skeleton. Buttresses.	3	Current control in practical classes
3	The muscular system of the maxillofacial area. Functions of the main and additional groups of masticatory muscles.	4	Current control in practical classes
4	Structure and mechanisms of movements of the temporomandibular joint.	3	Current control in practical classes
5	Vertical and transverse movements of the lower jaw.	4	Current control in practical classes
6	Hygienic requirements and standards for dental orthopedic care	3	Current control in practical classes

7	Instrumental methods of examination of patients (palpation, percussion, auscultation, probing).	3	Current control in practical classes
II	Preparation for the differential test.	4	
	Total	30	
Content modules 3-4			
I	Independent elaboration of topics:		
1	Technologies of stamping of metal crowns, bridges	3	Current control in practical classes
2	Technologies for casting metal crowns, bridges, frames of removable denture structures.	3	Current control in practical classes
3	Technology of manufacturing plastic orthopedic structures.	3	Current control in practical classes
4	Historical development of imprint materials	3	Current control in practical classes
5	Comparative characteristics of impression materials	3	Current control in practical classes
6	Technology of soldering and welding of parts of orthopedic structures and scope. Methods and technology of processing orthopedic structures.	3	Current control in practical classes
II	Preparation for the differential test.	2	
	Total	20	
	Total	50	

6. Course evaluation system

General course evaluation system	<p>Current control is performed based on the control of theoretical knowledge, skills and abilities in practical classes. Independent study students are assessed in practical classes, and is an integral part of the final grade of the student. Current control is performed during the training sessions and aims at checking the assimilation of students learning the material. Forms of current control are:</p> <p>a) test tasks with a choice of one correct answer, with the definition of the correct sequence of actions, with determination of the conformity, defining the specific portion of the photo or diagram ("detection");</p> <p>b) individual oral questioning, interview;</p>
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c) the solution of typical situational tasks;
 g) control of practical skills;
 Grades on the national scale ("excellent" - 5, "good" - 4, "satisfactory" - 3, "unsatisfactory" - 2), received by students, are displayed in the journals of attendance and academic group performance.

Final control

The final control is the form of a differentiated credit at the end of the 1st semester and at the end of the 2nd semester upon completion of the course of medical biology.

The semester exam is a form of final control of mastering by the student of theoretical and practical material on academic discipline. The final control (exam) is carried out at the last control lesson.

Students are admitted to the FC who have attended all the classes provided by the curriculum in the discipline and while studying the module scored the number of points not less than the minimum (**72 points**). A student who, for good or bad reasons, has missed classes, is allowed to rework academic debt for a certain period of time.

Evaluation of current educational activities. During the assessment of mastering each topic for the current educational activity of the student scores are set on a 4-point (national) assessment scale. This takes into account all types of work provided by the discipline program. The student must receive a score on each topic. Scores on the traditional scale are converted into points. The final assessment of the current academic activity is the arithmetic mean (the sum of scores for each lesson is divided by the number of lessons per semester) and translated into points according to **Table 2.**

Table 2. Conversion of the average score for the current activity into a multi-point scale (for disciplines completed by diff.credit, exam)

4-point scale	120-point scale	4-point scale	120-point scale	4-point scale	120-point scale	4-point scale	120-point scale
5	120	4,45	107	3,91	94	3,37	81
4,95	119	4,41	106	3,87	93	3,33	80
4,91	118	4,37	105	3,83	92	3,29	79
4,87	117	4,33	104	3,79	91	3,25	78
4,83	116	4,29	103	3,74	90	3,2	77
4,79	115	4,25	102	3,7	89	3,16	76
4,75	114	4,2	101	3,66	88	3,12	75
4,7	113	4,16	100	3,62	87	3,08	74
4,66	112	4,12	99	3,58	86	3,04	73
4,62	111	4,08	98	3,54	85	3	72
4,58	110	4,04	97	3,49	84	<3	Not enough
4,54	109	3,99	96	3,45	83		
4,5	108	3,95	95	3,41	82		

*The maximum number of points that a student can collect for current educational activity during semester in order to be admitted to the exam is **120 points**.*

*The minimum number of points that a student can collect for current educational activity during semester in order to be admitted to the exam is **72 points**.*

Calculating of the number of points is based on obtained marks of student according to traditional scale while learning subject during the semester, by calculating the arithmetic mean (AM) that is rounded to two signs after comma.

Evaluation of independent work of students. Independent work of students, which is provided by the topic of the lesson together with the classroom work, is evaluated during the current control of the topic in the relevant lesson. Assimilation of topics that are submitted only for independent work is checked during the final module control.

Evaluation of final control.

The maximum number of points that a student can score during the exam is 80

	<p>points. The final control is considered credited if the student scored at least 60% of the maximum amount of points (for a 200-point scale - at least 50 points).</p> <p>Determining the number of points that a student scored in the discipline: the number of points that a student scored in the discipline is defined as the sum of points for the current academic activity (Table1) and for the final control (diff.credit, exam) (Table 3).</p> <p>Table 3. Scale of assessment of differentiated (exam) credit:</p> <table border="1"> <thead> <tr> <th>Traditional scale</th> <th>Points</th> </tr> </thead> <tbody> <tr> <td>«5»</td> <td>70-80</td> </tr> <tr> <td>«4»</td> <td>60-69</td> </tr> <tr> <td>«3»</td> <td>50-59</td> </tr> </tbody> </table>	Traditional scale	Points	«5»	70-80	«4»	60-69	«3»	50-59
Traditional scale	Points								
«5»	70-80								
«4»	60-69								
«3»	50-59								
Requirements for written work	The final written work is performed in the form of a test.								
Practical classes	Classroom work								
<i>The 1st semester</i>									
Classroom work - score from 2 to 5 for each topic.									
<i>Differentiated credit (semester control)</i> Semester control at the end of the 1st semester is provided in the form of Differentiated credit. (Table 2) Provides a final grade on a 120-point scale as the sum of grades for the current control of knowledge (oral examination, written survey, Practical work, abstracts). Semester control includes control of theoretical and practical training.									
Amount: minimum $72 + 50 = 122$, maximum $120 + 80 = 200$									
<i>The 2nd semester</i>									
Classroom work - score from 2 to 5 for each topic.									
Final module control is evaluated from 50 to 80 points and consists of: Test control - 40 tests = 40 points (1 point for the correct answer to 1 test). Answer to 2 theoretical questions of 20 points for each = 40 points. Amount: 80.									
Amount: minimum $72 + 50 = 122$, maximum $120 + 80 = 200$									
The list of theoretical questions to prepare students for the exam.									
The list of practical skills for final module control									
<p>know the anatomical structure of the lower and upper jaws;</p> <ul style="list-style-type: none"> • know the anatomical structure of the masticatory and facial muscles; • know the structure of teeth and dentitions; • know the structure and functions of the periodontium; • know the anatomical structure, basic elements and function of the temporomandibular joint; • explain the difference between articulation and occlusion; • explain the relationship between the shape and function of the temporomandibular joint; • be able to characterize the orthognathic occlusion; • explain the biomechanics of mandibular movements; • explain the functional anatomy of the components of the masticatory apparatus; • analyze occlusion factors; • compare different types of articulators; • be able to explain the neuromuscular regulation of the functions of the dental system; • know the areas of anesthesia during peripheral anesthesia on the upper and lower jaws. • be guided by the organizational principles of the orthopedic department; • know the types of tools for manipulation; • know the organization of the workplace of an orthopedist; 									

- orient in the organizational principles of the dental laboratory;
- get acquainted with the place of work of a dental technician;
- master the safety of work in the orthopedic department;
- know the clinical methods of examination of orthopedic patients;
- know paraclinical methods of examination of orthopedic patients;
- be able to fill in medical records;
- be able to examine the patient in the clinic of orthopedic dentistry;
- master the classification of the dental-maxillary system;
- be able to formulate a diagnosis.
- know the classification of impression materials and prints;
- know the requirements for different types of impression materials;
- be able to choose an impression tray;
- know the physical and chemical properties of different groups of impression materials;
- substantiate the indications for the use of certain impression masses;
- know the technology of fingerprinting;
- select impression material and spoons according to the clinical picture;
- classify models of jaws;
- be able to record models in the articulator;
- choose a disinfectant according to the type of impression material;
- explain the basic principles of asepsis and antiseptics in dentistry.
- Be able to recognize clinical pictures of various pathological conditions of the dental area;
- Know the etiology of defects in the hard tissues of the teeth;
- Know the etiological factors of partial and complete loss of teeth;
- Explain the definition of basic orthopedic structures;
- Know the classifications of basic orthopedic prosthetic structures;
- Be able to make a comparative assessment of tabs and seals;
- Carry out a comparative characterization of artificial combined crowns with each other;
- Know the basic and auxiliary materials for the manufacture of inlays, artificial crowns, removable structures of prostheses;
- Carry out a comparative characterization of removable prosthetic structures;
- Know the design features of inlays, artificial crowns, removable prosthetic structures.

Circumstance of admission to the final control	<p>1. Semester control at the end of the 1st semester is provided in the form of a differential credit. (Table 2) Provides a final score on a 120-point scale as the sum of scores for the current control of knowledge (oral examination, written survey, tests, verification of identification of micropreparations, abstracts), the results of 2 content modules.</p> <p>2. Students are allowed to take the differentiated credit, exam only if there is no debt for the implementation of the curriculum.</p>
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7. Course policy

The organization of the educational process is carried out with the use of the European Credit Transfer System (ECTS) to assess student performance. The points gained in the current survey, independent work and points of the final control are credited. This must take into account the student's presence in class and his activity during practical work. Inadmissible: absences and late classes; use of a mobile phone, tablet or other mobile devices during the lesson (except for the cases provided by the curriculum and methodical recommendations of the teacher); copying and plagiarism; untimely performance of the task, the presence of unsatisfactory grades for 50% or more of the submitted theoretical and practical material.

8. RECOMMENDED LITERATURE

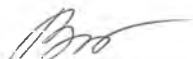
1.Basic:

1. Propedeutics of Orthopedic Stomatology=Пропедевтика ортопедичної стоматології. Затверджено Міністерством освіти і науки України як підручник для студентів вищих навчальних закладів (лист № 1/11-23-2-61 від 21.11.2018 р.). Король Д. М. та ін. 200 2019
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, Nespriadko VP, Mikhailenko TN etc. Dental prosthetic equipment. - К.: Книга-плюс, 2016. - 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», 2013. - 872 с.
4. Gasyuk PA Almanac of orthopedic dentistry // PA Gasyuk, E. Ya. Kostenko, VR Machogan, SO Rosolovskaya, AB Vorobets // Ternopil: Bogdan - 2015. - 352с.
5. Gasyuk PA Technological aspects of manufacturing orthopedic structures // PA Gasyuk, DM Korol, SO Rosolovskaya, LS Korobeynikov, VB Radchuk, RV Kozak // Ternopil: FOP Parkhin RA - 2016. - 140p.
6. King DM Fundamentals of clasp prosthetics / DM King, DD Kindiy, LS Korobeynikov, OD Odzhubeyskaya, RV Kozak, TP Malyuchenko // Poltava. - 2016 - 139p.
7. Korol MD Dental materials science / MD Korol, OD Odzhubeyskaya, DM Korol, IM Tkachenko, VM Petrushanko, MO Ramus, AD Dorubets, DD Kindiy, LS Korobeynikov // Poltava: FOP Myron IA - 2018. - 176p.
8. Fastovets OO Non-removable dental prosthetics: a textbook / OO Fastovets, RA Kotelevsky, SS Kobyljak // Dnipro: DMA. - 2013. - 212p.

2.Additional:

1. Golik VP All-ceramic restorations of hard tissues of teeth. Textbook / VP Golik; IV Yanishen, A. Yu. Nikonov, IO Pereshivailova // Kh.: KhNMU. - 2016. - 14p.
2. Golik VP Replacement of defects of hard tissues of a tooth by pin designs. Indications. Clinical and laboratory stages of production. Textbook / VP Golik; OS Maslovsky, IV Yanishen, OO Berezhna, AV Pogorila // Kh.: KhNMU. - 2015. - 27p.
3. Gasyuk AP Human odontology / AP Gasyuk, PA Gasyuk, TV Novoseltseva // Saarbrücken: LAMBERT Academic Publishing. - 2015. - 181p.

Lector



Bida Alexander Vitalievich