

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

SYLLABUS  
OF THE EDUCATIONAL DISCIPLINE

**" 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*** 5

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 2021**

<b>1. General information</b>	
<b>Subject</b>	<b>Orthopedic dentistry</b>
<b>Lector</b>	Acting Head of the Department, Doctor of Medical Sciences, Professor, KutsP.V. Bida A.V.
<b>Teacher's e-mail</b>	<a href="mailto:forum-for-me@bigmir.net">forum-for-me@bigmir.net</a>
<b>Discipline format</b>	Normative discipline.
<b>The volume of the discipline</b>	300 hours, 10 ECTS
<b>Link to the distance learning site</b>	maem.kiev.ua
<b>Consultations</b>	Web conferences in various programs (Zoom, Skype, Myit, Jitsy, Teams, Viber, Facebook, Cisco Webs). Exchange tasks via e-mail, Wandrive
<b>2. Annotation to the course</b>	
<p>Orthopedic dentistry is a discipline that allows students to master in the clinic certain dental manipulations used in the treatment of patients with defects of the crown of the teeth, with partial and complete absence of teeth and defects and deformities of the dental system. The special (professional) competencies acquired in this way are used by students in the process of treatment of orthopedic dental patients.</p> <p>The subject of study of the discipline is orthopedic treatment of diseases of the dental apparatus:</p> <ul style="list-style-type: none"> <li>- defects of the coronal part of individual teeth</li> <li>- partial loss of teeth</li> <li>-complete loss of teeth</li> <li>-tooth-jaw defects and deformations</li> <li>-pathology of the TMJ</li> </ul> <p>Interdisciplinary links: Orthopedic dentistry as a discipline</p> <ol style="list-style-type: none"> <li>a) is based on previous study of human anatomy by students; histology, embryology and cytology, medical biology, medical chemistry, biological and bioorganic chemistry, medical physics, microbiology, virology and immunology and integrates with these disciplines;</li> <li>b) is based on the study by students of propaedeutic disciplines of dental profile: propaedeutics of orthopedic dentistry, propaedeutics of therapeutic dentistry and propaedeutics of pediatric therapeutic dentistry and integrates with these disciplines;</li> <li>c) c) integrates with the following clinical disciplines: prevention of dental diseases, pediatric therapeutic dentistry and therapeutic dentistry, surgical dentistry.</li> </ol>	
<b>3. Purpose and objectives of the course</b>	
<b>1. The purpose and objectives of the discipline</b>	
<p>1.1 The purpose of studying orthopedic dentistry - the formation of the basics of clinical thinking of the doctor, mastering the skills of examination and rationale for diagnosis, differential diagnosis of diseases of the dental and orthopedic system, drawing up a treatment plan for patients, mastering basic manual skills in orthopedic treatment.</p> <p>The ultimate goals are set on the basis of the OPP of training a doctor in the specialty in accordance with the block of its content module (professional and practical training) and is the basis for building the content of the discipline. The description of goals is formulated through skills in the form of target tasks (actions). On the basis of the ultimate goals for each module or content module, specific goals are formulated in the form of certain skills (actions), target tasks that ensure the achievement of the ultimate goal of the discipline.</p> <p>1.2. The main tasks of studying the discipline "Orthopedic Dentistry" are:</p> <ul style="list-style-type: none"> <li>• To form the volume of basic, fundamental medical knowledge that forms the professional competencies of a dentist-orthopedist.</li> <li>• To form and improve the professional training of a dentist-orthopedist who has clinical thinking, is well versed in pathology, has knowledge of related disciplines.</li> </ul>	

- To form skills in mastering new technologies and methods in the field of orthopedic dentistry.
- To prepare a specialist for independent professional medical and diagnostic activities that can conduct differential diagnosis, provide medical care, carry out preventive and rehabilitation measures to save the life and health of the patient.

#### **4. Competencies and learning outcomes**

**As a result of studying the discipline the student must be able to:**

- conduct an examination of a dental patient;
- determine the scope and sequence of special diagnostic measures, evaluate their results;
- interpret the functional anatomy of the dental apparatus;
- apply the basic principles of asepsis, antiseptics, anesthesia;
- diagnose emergencies in the clinic of orthopedic dentistry;
- provide the necessary emergency care in the clinic of orthopedic dentistry;
- analyze the results of basic and additional methods of 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 by functional methods;
  - substantiate and formulate a syndrome diagnosis in the clinic of orthopedic dentistry;
  - identify the main syndromes and symptoms in the clinic of orthopedic dentistry;
  - make a final clinical diagnosis of major diseases in the clinic of orthopedic dentistry;
  - draw up and substantiate a plan of comprehensive dental treatment and a plan of orthopedic rehabilitation, formulate indications and contraindications to orthopedic treatment;
    - identify different clinical variants and complications of the most common diseases in the clinic of orthopedic dentistry;
  - explain the principles of restorative orthopedic treatment and rehabilitation in maxillofacial patients;
    - plan the orthopedic stage of complex treatment of patients with periodontal disease, with deformations of the dentition, increased abrasion of the hard tissues of the teeth, taking into account individual characteristics and the clinical course of major dental diseases;
      - conduct orthopedic treatment of major dental diseases;
    - interpret the general principles of treatment of patients with various defects of the hard tissues of the teeth, dentition and other pathologies of the dental-maxillary system;
      - Demonstration of mastery of moral and deontological principles of a medical specialist and the principles of professional subordination in the clinic of orthopedic dentistry.

**Know:**

- principles of orthopedic treatment of hard tissues of teeth with inlays;
- principles of orthopedic treatment of defects of hard tissues of teeth with veneers;
- principles of application of metal-free crowns;
- principles of orthopedic treatment of defects of hard tissues of teeth with artificial crowns with a metal base;
- principles of orthopedic treatment of dentition defects with the use of modern technologies for the manufacture of fixed dentures: solid, metal-ceramic, metal-composite, non-metallic bridges;
- principles of orthopedic treatment of dentition defects with the use of adhesive bridges (features of preparation, fingerprinting, fixation of finished structures);
- principles of orthopedic treatment of dentition defects with dentures with different types of clasp fixation system;
- principles of orthopedic treatment of dentition defects with removable dentures with mechanical fixation (telescopic, lock, beam fixation systems);
- principles of orthopedic treatment of dentition defects with the use of implantation;
- principles of examination of dentition occlusion: study of occlusal contacts in the oral cavity and on models, determination of occlusion height, determination of central occlusion;
- principles of orthopedic treatment of periodontal diseases using various orthopedic structures;
- principles of orthopedic treatment of patients with complete loss of teeth using modern methods;

- principles of differential diagnosis, treatment and prevention of diseases caused by denture materials: galvanosis, allergic stomatitis, toxic-chemical stomatitis;
- principles of fixing removable and non-removable structures of prostheses on implants;
- principles of orthopedic treatment with the use of forming and replacement prostheses;
- principles of orthopedic treatment using ectoprostheses of the face;
- principles of orthopedic treatment with the use of dentures based on implants;
- principles of diagnosis and orthopedic treatment of TMJ diseases.

According to the requirements of the Standard of Higher Education, the discipline "Orthopedic Dentistry" provides students with the acquisition of competencies:

- integral:

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

- General competencies (GQ):

LC 1. Ability to abstract thinking, analysis and synthesis; ability to learn and be modernly trained.

LC 2. Knowledge and understanding of the subject area and understanding of the profession. LC 3.

Ability to apply knowledge in practical situations.

LC 4. Ability to communicate in the state language both orally and in writing. Ability to communicate in a second language.

LC 5. Skills in the use of information and communication technologies.

LC 6. Ability to search, process and analyze information from various sources.

LC 7. Ability to adapt and act in a new situation; ability to work autonomously. LC 8. Ability to identify, pose and solve problems.

LC 9. Ability to choose a communication strategy. LC 10. Ability to work in a team.

LC 11. Interpersonal skills.

LC 12. Ability to act on the basis of ethical considerations (motives). LC 13. Skills for safe activities

LC 14. Ability to assess and ensure the quality of work performed. LC 15. The desire to preserve the environment.

LC 16. Ability to act socially responsible and civic conscious.

- special (professional, subject) (FC):

FC 1. Ability to collect medical information about the patient and analyze clinical data.

FC 2. Ability to interpret the results of laboratory and instrumental research.

FC 3. Ability to diagnose: determine the preliminary, clinical, final, concomitant diagnosis, emergencies.

FC 4. Ability to plan and implement measures for the prevention of diseases of organs and tissues of the oral cavity and maxillofacial region.

FC 5. Ability to design the process of providing medical care: to determine the approaches, plan, types and principles of treatment of diseases of organs and tissues of the oral cavity and maxillofacial region.

FC 6. Ability to determine the rational mode of work, rest, diet in patients in the treatment of diseases of organs and tissues of the oral cavity and maxillofacial region.

FC 7. 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.

FC 8. Ability to perform medical and dental manipulations.

FC 9. Ability to treat major diseases of organs and tissues of the oral cavity and maxillofacial region.

FC 10. Ability to organize and conduct medical and evacuation measures. FC 11. Ability to determine tactics, methods and provide emergency medical care.

FC 12. Ability to organize and conduct screening examinations in dentistry. FC 13. Ability to assess the impact of the environment on the health of the population (individual, family, population).

FC 14. Ability to maintain regulatory medical records. FC 15. Processing of state, social and medical information.

FC 16. Ability to organize and conduct rehabilitation measures and care for patients with diseases

of the oral cavity and SLE.  
 FC 17. Ability to legally support their own professional activities.  
 FC 18. Ability to provide home care according to the protocols of tactical medicine

**5. Organization of course training**

*The volume of the course*

Type of lesson	<b>Total amount of hours</b>
Lectures	<b>40</b>
Practical classes	<b>160</b>
Independent work	<b>100</b>

*Course signs*

Semester 9st, 10nd	Specialty <u>221 Dentistry</u>	Course (year of study) 5st	Normative discipline
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The structure of the discipline	Number of credits, hours, of them			Year of study semester	Type of control	
	Total	Classroom				CPC
		Lectures (h)	Practical (h)			
<b>Orthopedic dentistry</b>	<b>10 credits/300 hours.</b>	<b>40</b>	<b>160</b>	<b>100</b>	<b>V course IX semestr X semester</b>	<b>credit</b>
<b>For semesters</b>						
<b>Модуль 5, 9 семестр</b>	<b>6/180</b>	<b>40</b>	<b>80</b>	<b>60</b>	<b>IX semester</b>	<b>credit</b>
<b>Module 6 10 semester</b>	<b>4/120</b>	<b>-</b>	<b>80</b>	<b>40</b>	<b>X semester</b>	<b>credit</b>

*Course thematics*

**THEMATIC PLAN OF LECTURES  
 IN ORTHOPEDIC DENTISTRY**

**FOR STUDENTS OF THE 5TH YEAR OF THE 9TH SEMESTER**

№	Lecture topic	Hours
1,2	Diagnosis and treatment of patients with lesions of the maxillofacial area. Modern diagnostic process in orthopedic dentistry.	<b>4</b>
3,4	Replacement of defects of teeth and dentitions by all-cast and metal-ceramic fixed structures. Indication. Clinical and technological stages of manufacture.	<b>4</b>
5,6	Etiology, pathogenesis, clinic. treatment and prevention of excessive abrasion of the hard tissues of the teeth.	<b>4</b>

7,8	Periodontal disease. Clinic. Classifications. Research methods, diagnostics. Orthopedic methods of treatment in the complex therapy of periodontal diseases. Removable and non-removable constructions used in patients with periodontitis. Temporary splinting. Interaction with other disciplines.	4
9,10	Permanent splinting. Removable and non-removable constructions used in patients with periodontitis. Features of orthopedic treatment of periodontal diseases, which are complicated by partial loss of teeth.	4
11,12	Diseases of the temporomandibular joint. Classifications. Etiology. Clinic and diagnosis. R-ography, tomography as a tool for the clinic of orthopedic dentistry. Orthopedic intervention in the complex treatment of TMJ diseases. Consistency and unity of the treatment process.	4
13,14	Implantation in orthopedic dentistry. Indication. Types of implants, examination of patients. Methods of intervention. Prosthetics on implants. Complications and prevention of complications when using prostheses on implants.	4
15,16	Replacement of defects of teeth and dentitions by all-ceramic fixed structures. Indication. Technological and clinical stages of production.	4
17,18	Dental deformities. Etiology, pathogenesis, prevention. Treatment of dental and maxillary deformities.	4
19,20	Occlusion. Occlusion factors. Clinical significance of restoration of individual occlusion, means and stages of its achievement.	4
	<b>Total</b>	<b>40</b>

**THEMATIC PLAN OF PRACTICAL CLASSES  
IN ORTHOPEDIC DENTISTRY  
FOR STUDENTS OF THE V COURSE OF THE 9TH SEMESTER**

№	Topic	Number of hours
1	Methods of examination of patients in the clinic of orthopedic dentistry (clinical and radiological examination methods). Definition of the diagnosis (anatomical, functional and etiological) in the clinic of orthopedic dentistry. Filling out medical cards. Reception of patients. Preparation of the patient's oral cavity for prosthetics. Types of training (psychological, therapeutic, orthopedic, surgical, orthodontic). Reception of patients.	3
2	Anesthesia when preparing teeth. Indications, means, methods of execution. Emergencies (fainting, collapse, shock, angina attack, myocardial infarction, Quincke's edema). Student taking impressions from student. Reception of patients.	3
3	Biomechanics of the lower jaw, transversal movements of the lower jaw. Jaws, their characteristics. Bonneville and Hanau's Law. Their importance in clinical and orthopedic dentistry. Getting the student's impressions from the student. Reception of patients. Classification of impressions and impression materials. Classification of impression trays. Requirements, technique of obtaining. Getting the student's impressions from the student. Reception of patients.	3

4	<p>Dental prosthetics using simple and stump root inlays and fiberglass pin structures, pin teeth (according to Richmond, according to Ilyina-Markosyan, according to Logan, according to Akhmedov). Definition, indications and contraindications for use, materials from which they are made. Reception of patients.</p> <p>Dental prosthetics with jacket crowns (porcelain, composite and plastic). Definition and classification, indications and contraindications for use, materials from which they are made. Reception of patients. Dental prosthetics using a stamped metal crown. Definition and classification, indications and contraindications for use, materials from which they are made. Practical use. Reception of patients.</p>	3	Clinic
5	<p>Dental prosthetics with stamped-brazed bridges (metal and veneered). The constituent elements. Definition, classification, indications and contraindications for use, materials from which they are made. Reception of patients. Dental prosthetics using half-crowns, three-quarter crowns, equatorial and stamped telescopic crowns. Definition and classification, indications and contraindications for use, materials from which they are made. Practical use. patient reception</p> <p>Prosthetic teeth for additional combined crowns, which are made using the method of stamping and applied facing (according to Belkin, Kurylenko, Akhmedov). Definition, classification, is shown and contraindicated to storage, materials, from which they are prepared.</p>	3	Clinic Labor
6	<p>Casting, casting technology. Compensation of shrinkage of metals at all stages of the manufacture of dentures. Basic and auxiliary materials used in the casting of dentures. Practical use. Reception of patients. Dental prosthetics with cast metal structures (crowns and bridges). Definition, indications and contraindications for use, materials from which they are made. Practical use. Reception of patients.</p>	3	Clinic Labor
7	<p>Modern technologies for the manufacture of fixed dentures. Metal-free ceramics. Milling.</p>	3	Clinic Labor
8	<p>Dental prosthetics using combined crowns and bridges made by casting: metal-plastic (according to Kirsten, according to Mate, according to Miller) and metal-ceramic crowns. Reception of patients.</p>	3	Clinic Labor
9	<p>Prosthetics of dental defects using partial plate prostheses. Definition, indications and contraindications for use, materials from which they are made. Reception of patients.</p> <p>Modern designs of removable dentures (nylon, polypropylene, silicone, with a metal base).</p>	3	Clinic
10	<p>Direct prosthetics, indications for use, materials from which they are made. Repair of plastic prostheses. Reception of patients.</p>	3	Found Clinic
11	<p>Planning the design of the clasp prosthesis. Its constituent elements. Definition, indications and contraindications for use, materials from which they are made. Parallelometry. Reception of patients.</p>	3	Clinic Labor
12	<p>Clinical and laboratory stages in the manufacture of clasp prostheses. Prosthetics with clasp prostheses for defects in the dentition of classes 1,2,3,4 according to Kennedy. The choice of abutment teeth and fixing elements. Ney's clasp system. Reception of patients.</p>	3	Clinic
13	<p>Pathological abrasion. Reduced bite. Etiology., Pathogenesis, clinical situation, diagnosis, treatment and prevention. Reception of patients.</p>	3	Clinic
14	<p>Parafunction of the chewing muscles. Bruxism. Etiology., Pathogenesis, clinic, treatment. Prevention methods. Reception of patients.</p>	3	Clinic Labor

15	Partial secondary adentia, complicated by deformation of the dentition. Etiology, pathogenesis, clinical forms, treatment. Reception of patients.	3
16	Periodont. Anatomical and histological structure. Endurance (gnatodynamometry). Reserve forces (odontoparodontogram). Periodontal innervation. Reflexes and functional chewing units. Reception of patients. Gingivitis and mucosal diseases. Features of orthopedic treatment. Periodontitis. Clinic. Survey methods. Reserve forces of the periodont (odontoparodontograms). Reception of patients.	3
17	Generalized periodontitis. Diagnostics. Alignment of the occlusal plane, temporary splinting. Reception of patients. Focal periodontitis. Diagnostics. Direct and reflected traumatic node. Treatment of focal periodontitis complicated by partial secondary adentia. The use of splints and prosthetic splints. Reception of patients.	3
18	Types of teeth stabilization. Biomechanical bases of splinting. Classification, requirements. The use of splints and prosthetic splints in the treatment of generalized periodontitis. Reception of patients.	3
19	Prosthetics for complete loss of teeth. Fixation of complete removable dentures. Definition, indications and contraindications for use, materials from which they are made. Individualization of standard spoons in the clinic. Reception of patients. Manufacturing of individual spoons in the dental laboratory and clinic. Casting models	3
20	Modern methods for determining and fixing central occlusion. Articulation theories of Masson and Giese-Hanau. Articulators, their types and types and work with them. Pantographs, axiographs, face bows, balance beams.	3
21	The choice of artificial teeth and methods of setting them. Anatomical setting of artificial teeth according to Gizi, Hanau and their modifications. Setting according to Vasiliev, Eufron-Gelfund-Katz and on a spherical surface.	3
22	Clinical and laboratory stages of the manufacture of complete removable plastic dentures and dentures with a metal base. Practical use.	3
23	The relationship between the prosthesis and the patient's body. Adaptation mechanism. The reaction of the oral cavity tissues to dentures (galvanism, galvanosis, prosthetic stomatitis). Clinic, diagnosis, treatment and prevention.	3
24	Dysfunctional conditions of the TMJ (pain dysfunction syndrome, dislocation, subluxation). Etiology, pathogenesis, clinic, features of orthopedic treatment. Arthritis, arthrosis, ankylosis. Clinic, differential diagnosis and orthopedic treatment.	3
25	Dental prosthetics on implants. Dental implantology. Definition, classification, indications and contraindications for use.	3
26	Dental prosthetics on implants. Materials and methods. Practical use. Prosthetics on toothless teeth.	3
27	Credit	2
	<b>TOTAL</b>	

**THEMATIC PLAN OF PRACTICAL CLASSES  
IN ORTHOPEDIC DENTISTRY  
FOR STUDENTS OF THE V COURSE OF THE 10TH SEMESTER**

№	Topics of the lesson
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1	Volume and types of preparation of the oral cavity before orthopedic intervention. Drawing up a treatment plan	3
2	Indications for the restoration of defects of the crown of the tooth with metal-ceramic structures. Clinical stages. Technology of manufacturing metal-ceramic structures	3
3	Indications and contraindications to the manufacture of ceramic veneers. Features of tooth preparation. Manufacturing technologies. Adhesive technique of fixing veneers Indications, clinical and laboratory stages of manufacturing aesthetic restorations using metal-free technologies. Errors and complications	3
4	Restoration of teeth after endodontic treatment. Designs of standard pins and pins of individual production. Indications for use. Complication	3
5	Replacement of partial defects of the dentition with bridges. Biomechanics of bridges. Stages of manufacturing bridge prostheses from different materials Temporary non-removable restorations. Indications, manufacturing methods. Protection of vital teeth in the manufacture of fixed orthopedic structures	3
6	Indications and contraindications to the replacement of dentition defects with clasp dentures with a lock. Features of design, complications	3
7	Etiology and pathogenesis of dental deformities. Diagnosis and clinical forms. Drawing up a treatment plan. Prevention Excessive abrasion of the hard tissues of the teeth. Etiology, pathogenesis, clinical forms. Orthopedic methods of treatment and prevention	3
8	Traumatic occlusion. Etiology, pathogenesis. Diagnostic methods. Treatment and prevention	3
9	Examination of patients with periodontal diseases. Odontoparodontogram analysis. Diagnostic methods Tasks and planning of orthopedic interventions in complex treatment and prevention of periodontal diseases. Tires and splint-prostheses, classification Indications, clinical and technological stages of manufacturing removable and non-removable tires. Advantages and disadvantages of splinting methods. Immediate prosthesis	3
10	Etiology, pathogenesis, clinic of TMJ diseases. Drawing up a treatment plan. Orthopedic methods of treatment of TMJ dysfunctions	3
11	Implantation, indications, examination of the patient. Implant planning	3
12	Components of the implant. Methods of connecting the abutment to the implant. Abutments, types, indications for use Clinical and technological stages of manufacturing non-removable prostheses based on implants	3
13	Diagnostic process in orthopedic dentistry. Differential diagnosis. Examination and treatment plan. Functional methods of chewing apparatus research	3
14	Restoration of functional occlusion in various types of prosthetics	3
15	Replacement of defects of hard tissues of teeth by tabs, stump and pin structures. Clinical and laboratory stages of manufacture	3
16	Replacement of defects of the coronal part of the teeth and partial defects of the dentition with fixed dentures. Clinical and laboratory stages of production of crowns and bridges (stamped, soldered, unsoldered, solid)	3
17	Replacement of partial defects of dentitions by metal-ceramic fixed prostheses. Clinical and laboratory stages of manufacture	3

18	Metal-free technologies of fixed prosthetics. Indications, clinical and laboratory stages of manufacture. Replacement of defects of the coronal part of the teeth and partial defects of the dentition with fixed dentures. Clinical and laboratory stages of production of crowns and bridges (stamped, soldered, unsoldered, solid)	3
19	Replacement of partial defects of dentitions with removable dentures. Choice of design and material. Fixing systems	3
20	Replacement of partial defects of dentitions by clasp (bugel) dentures	3
21	Replacement of partial defects of dentitions by prostheses with lock fastenings. Clinical and laboratory stages	3
22	Complete removable prosthetics. Complete removable prosthetics. Removable and conditionally removable prostheses based on implants	3
23	Orthopedic interventions in the complex treatment of periodontal diseases. Elimination of traumatic occlusion; temporary and permanent splinting; design of removable and non-removable tires and tire prostheses	3
24	Pathological abrasion of the hard tissues of the teeth. Etiology, pathogenesis, clinical forms. Orthopedic treatment Principles of complex examination and treatment of dental deformities. Mechanisms of occurrence. Clinical forms	3
25	Diseases of the temporomandibular joint. Etiology, clinic, differential diagnosis, treatment	3
26	. Pathological effects of materials used in orthopedic dentistry. Differential diagnosis, treatment and prevention Orthopedic measures in the complex treatment of injuries of the maxillofacial area	3
27	Differentiated credit	2
	TOTAL	80

**THEMATIC PLAN OF INDEPENDENT WORK OF STUDENTS (IWS)**

**Thematic plan of independent work of students to module №5: "Orthopedic methods of treatment of diseases of the dental apparatus" 9 semester**

<b>№</b>	<b>Type of independent work</b>	<b>Hours</b>	<b>Kind of Control</b>
<b>1</b>	<b>Preparation for practical classes (Theoretical training, development of practical skills. Abstracts, problems, drawings, diagrams)</b>	<b>35</b>	<b>Current control on practical lesson</b>
<b>2</b>	<b>Individual independent work (abstract, presentation)</b>  <b>topics:</b> <b>1. Indications and contraindications to the use of a telescopic fixation system for prosthetics.</b>  <b>2. Modern cements for permanent and temporary fixation of orthopedic structures. Comparative characteristics, application technology.</b>  <b>3. Planning the design of the clasp prosthesis. Its constituent elements. Definitions, indications and contraindications to use, materials from which they are made. Parallelometry. Admission</b>	<b>18</b>	<b>6 points (added to the points of the current activity)</b>

	<p>of patients.</p> <p>4. Clinical and laboratory stages in the manufacture of clasp prostheses. Prosthetics by clasp prostheses at defects of dentitions of 1,2,3,4 classes according to Kennedy. Selection of abutment teeth and fixing elements.</p> <p>5. Types of tooth stabilization. Biomechanical bases of splinting. Classification, requirements. The use of splints and dentures in the treatment of generalized periodontitis</p> <p>6. The choice of artificial teeth and methods of their installation. Anatomical staging of artificial teeth in Giza, Hanau and their modifications. Staging on Vasiliev, Eifron-Gelfund-Katz and on a spherical surface.</p>		
3	Work on test tasks (paper, computer)	2	Final control
4	Preparation for the credit	5	Final control
5	Total	60	

**Thematic plan of independent work of students to the module № 6 5 courses, 10 semester**

<i>№</i>	<i>Type of independent work</i>	<i>Hours</i>	<i>Kind of Control</i>
1	Preparation for practical classes (Theoretical training, development of practical skills. Abstracts, problems, drawings, diagrams)	20	Current control on practical lesson
2	<p>Individual independent work (preparation of reports, abstracts, presentations)</p> <p>1. Fixed prosthetics based on implants</p> <p>2. The use of thermoplastic materials in removable prosthetics. Types of thermoplastics and their characteristics (nylon, polypropylene, acetal)</p> <p>3. Replacement of defects of hard tissues of teeth by tabs, stump and pin structures. Clinical and laboratory stages of manufacture</p> <p>4.. Replacement of partial defects of dentitions with removable dentures. Choice of design and material. Fixing systems</p> <p>5 Complete removable prosthetics. Complete removable prosthetics. Removable and conditionally removable prostheses based on implants</p>	18	Current control

	<b>6. Pathological abrasion of the hard tissues of the teeth. Etiology, pathogenesis, clinical forms. Orthopedic treatment Principles of complex examination and treatment of dental deformities.</b>		
	<b>Preparation for credit</b>	<b>2</b>	
	It takes 40 at once	<b>40</b>	

### 6. Course evaluation system

General course evaluation system

**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:

- 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");
- b) individual oral questioning, interview;
- 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	<b>72</b>
4,58	110	4,04	97	3,49	84	<3	Not enoug h
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 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**).

**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 (Table 1) and for the final control (diff.credit, exam) (Table 3).

**Table 3. Scale of assessment of differentiated (exam) credit:**

Traditional scale	Points
«5»	<b>70-80</b>
«4»	<b>60-69</b>
«3»	<b>50-59</b>

Requirements for written work: The final written work is performed in the form of a test.

Practical classes: Classroom work

### **The 1st semester**

Classroom work - score from 2 to 5 for each topic.

**Differentiated credit (semester control)** 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  $120 + 80 = 200$

### **The 2nd semester**

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.**

1. Orthopedic dentistry. Definition of academic discipline, its purpose, tasks. The main directions of development of this science. The contribution of the staff of the department to the development of orthopedic dentistry.
2. Diagnosis in orthopedic dentistry. Methods of examination of the patient Components of the diagnosis (etiological, functional, anatomical).
3. Methods of examination of the patient in the clinic of orthopedic dentistry. Medical history.
4. Features of history taking, the sequence of examination of the patient.
5. Instrumental and special research methods in orthopedic dentistry.
6. X-ray research methods, techniques, informativeness to establish the final diagnosis.
7. Electromyography, methods, informativeness for diagnosis. Gnatodynamometry. Reserve and residual capacity of the periodontium, practical significance. Static and dynamic methods for determining the effectiveness of chewing.
8. Functional methods of research of the masticatory device
9. Preparation of the oral cavity for dental prosthetics, types of surgical, therapeutic, orthodontic) their volume and significance.
10. Classification of dentition defects according to Bethelman, Kennedy. Their importance in the clinic of orthopedic dentistry.
11. Bite. Physiological and pathological occlusion. Age characteristics of occlusion.
12. Mobility and pliability of the oral mucosa. Classifications and meanings for removable prosthetics.
13. The structure of the oral mucosa. Its changes in dental prosthetics.
14. Marginal periodontium. Anatomy of the gingival joint. Structure, functions and meanings.
15. Types of atrophy of the jaws. Factors causing the development of jaw atrophy and their clinical significance.
16. Anatomy of the lower and upper jaws, their functional features.
17. Components of the masticatory system and their functional interaction.
18. Chewing muscle groups and their functions are normal. The phenomenon of coordinated antagonism, synergism in the work of the masticatory muscles.
19. Facial muscles and its functions.
20. Relative physiological rest of masticatory muscles, its value in the clinic of orthopedic dentistry.
21. Neuromuscular system. Reflexes of the dental-maxillary system. The concept of periodontomuscular, gingivomuscular and myostatic reflexes. Their significance.
22. Anatomical features of the temporomandibular joint. Basic structural elements and their functional significance.
23. The mechanism of movements of the lower jaw. Comparative characteristics of anatomical and physiological mechanisms of the masticatory apparatus in different groups of animals. Relationship between the shape and function of the temporomandibular joint.
24. Articulation. Movements of the mandible in the sagittal plane and transverse. The main parameters of these movements.
25. Movements of the lower jaw in the vertical, sagittal and transverse directions. Phases of masticatory movements according to Giza.
26. The mechanism of movements of the lower jaw in the sagittal direction. The incisal and articular pathways, their relationship. The Christensen phenomenon. Significance in the design of complete removable dentures.
27. Movements of the lower jaw in the transverse direction (Bennett's angle, the ratio of dentitions).
28. Sagittal and transverse occlusal curves, their importance in the design of artificial dentitions in the manufacture of complete removable dentures. Working and balancing parties (characteristics of occlusal contacts).
29. Methods of recording (registration) of movements of the lower jaw (intraoral, extraoral).
30. Biomechanics of mandibular movements, its significance for the design of dentures. Definition of the concepts "articulation", "occlusion" and their meaning for the construction of dentures.
31. The structure of the dentition. The concept of dental, alveolar and basal arches. Occlusal curves

(Spee and Wilson).

32. Factors that ensure the stability of the teeth.
33. Anatomy of the occlusal surface of teeth and dentitions. Occlusal contacts of teeth.
34. Factors of occlusion (articular path; Bennett's movement; occlusal plane - Spee, Wilson; occlusion morphology; incisal path; distance between articular heads).
35. Structure and functions of the periodontium. Chewing pressure transformation.
36. Structure and functions of the periodontium. Tooth mobility, diagnostic value.
37. Types of occlusion. Contacts of teeth at the central occlusion. The ratio of anterior and angular teeth in the position of central occlusion.
38. Occlusal concepts in different types of prosthetics. Restoration of functional occlusion in various types of prosthetics
39. Contacts of teeth when extending the lower jaw to the front and its lateral movements. Premature contacts - supracontacts.
40. The main provisions of the articular theory of articulation of the mandible and its practical significance.
41. The main provisions of the spherical theory of articulation and its practical significance.
42. Theory of articulatory equilibrium, basic provisions.
43. Articulators. Purpose, types, basic principles of work.
44. Pain. Anesthesia. Methods of anesthesia in orthopedic dentistry. Medical and pharmacological analgesics.
45. Possible errors and complications of anesthesia (dizziness, collapse, anaphylactic shock), clinical signs, the amount of emergency care.
46. Asepsis and antiseptics in the clinic of orthopedic dentistry.
47. Disinfection and sterilization of tools, prints. Preventing the spread of infectious diseases in the dental clinic.
48. Imprints and their classification. Materials used to obtain them.
49. Imprint materials. Requirements for them. Characteristics of thermoplastic impression materials, indications for their use.
50. Imprint materials. Requirements for them. Characteristics of elastic impression materials, indications for their use.
51. Imprint materials. Requirements for them. Characteristics of silicone impression materials, indications for their use.
52. Complications in obtaining fingerprints and their prevention.
53. Replacement of defects of hard tissues of teeth by tabs, stump and pin structures. Clinical and laboratory stages of manufacture
54. Requirements for artificial crowns. Indications for covering the tooth with a crown. Classification of crowns. Materials used to make artificial crowns.
55. Consequences of preparation of hard tissues of teeth. The need to use temporary structures.
56. Requirements for a stamped metal crown. Types of stamping, materials, tools.
57. Rules of preparation of various functionally oriented groups of teeth under a stamped crown. Tools.
58. Clinical and laboratory stages of production of stamped crowns. Types of stamping.
59. The ratio of the edge of the crown with the tissues of the marginal periodontium. Complications with elongated and shortened crown edge, morphological changes in trauma to the marginal periodontium.
60. Plastic crowns. Indications and contraindications to their use. Clinical and laboratory stages of their production, materials.
61. Indications for the manufacture of solid crowns. Clinical and laboratory stages.
62. Combined crowns. Clinical indications for their use. Rules of tooth preparation. Manufacturing methods, materials. The mechanism of fixing the facing material.
63. Metal-free orthopedic structures. Indications for use. Clinical and laboratory stages, modern manufacturing technologies.
64. Bridge dentures. Indications and contraindications to prosthetics of dentition defects with

bridges. Biomechanics of bridges. Requirements for abutment teeth.

65. Indications for the use of various support elements in bridges. Designs of supporting elements.

66. Constructions of bridges, indications for their use.

67. Comparative characteristics of brazed, unsoldered and solid bridges.

68. Clinical and laboratory stages of manufacturing stamped-soldered bridges.

69. Solders and fluxes. Silver solder, composition, method of application. The role of fluxes in the soldering process.

70. Metals and alloys used in orthopedic dentistry. Noble alloys.

71. Metals and alloys used in orthopedic dentistry. Steel, its grades. Physico-chemical properties. The role of alloying elements.

72. Clinical and laboratory stages of manufacturing unsoldered bridges.

73. Modeling of the intermediate part of the bridge. The relationship between its shape and the topography of the dentition defect.

74. Factors that ensure the fixation of fixed dentures. Rules and sequence of fixation.

75. Types of fixing cements (phosphate, glass ionomer, carboxylate), indications for their use.

76. Anatomical and physiological features of the oral cavity with partial loss of teeth.

77. Selection and substantiation of designs of partial removable dentures with included and distally unrestricted defects of dentitions.

78. Obtaining impressions in the manufacture of partial removable dentures. Imprint requirements.

79. Methods of fixing partial removable dentures. The role of biophysical and mechanical methods of reinforcement of removable prostheses.

80. Support teeth, their importance for fixing dentures. Clasp line. Point, linear and planar reinforcement of prostheses. Selection of abutment teeth.

81. Classification of staples. Ways to connect staples to dentures.

82. The value of the elements of anatomical retention for the fixation of partial removable dentures. Clampless prostheses. Indications for their use.

83. Determination and fixation of central occlusion in groups I and II of dentition defects.

84. Determination and fixation of central occlusion in group III defects of the dentition.

85. The choice of denture design in the presence of one tooth on the upper or lower jaws.

86. Laboratory stages of manufacturing partial removable dentures. Materials used for this purpose.

87. Indications for the manufacture of partial removable dentures with a metal base. Clinical and laboratory stages of production.

88. Casting of metal frames. Metal alloys. Shrinkage compensation of metals.

89. Replacement of dentition defects with clasp dentures. Indications and contraindications to the manufacture of clasp prostheses. Structural elements of clasp prostheses and their significance.

90. Diagnostic models. Requirements for them, manufacturing rules. Planning the design of clasp prostheses.

91. Parallelometry. Purpose, tasks. Methods of parallelometry. Selection of abutment teeth.

92. Stages of parallelometry.

93. Staples. Indications for their use. Classification. Components of staples.

94. Ney staple system. Ways to connect staples to the frame.

95. Telescopic mounting. Indications and contraindications to the manufacture of partial removable prostheses with a telescopic fixation system.

96. Clinical and laboratory stages of manufacturing removable prostheses with a telescopic fastening system.

97. Attachments (shutters, hinges). Classification. Indications for use.

98. Casting of clasp prosthesis frames on refractory models. Duplication of models. Duplicate materials.

99. Compensation for shrinkage of metals. Molding masses. Metal alloys for the manufacture of clasp prostheses.

100. The shape, size and position of the arch of the clasp prosthesis on the upper and lower jaws depending on the topography of the defect of the dentition.

101. Fitting the frame of the clasp prosthesis. Requirements for a solid frame.

102. Delivery and correction of a partial removable prosthesis.
103. Mechanism and terms of adaptation to partial removable prostheses. Rules of use of partial removable prostheses.
104. The effect of removable dentures on the tissues of the oral cavity. Diagnosis, clinic and treatment of prosthetic stomatitis.
105. Methods of placing teeth with partial removable prosthetics.
106. Artificial teeth. Methods of manufacture, materials. Rules of selection of artificial teeth for placement in removable dentures.
107. Rules of installation of artificial teeth. Fixation in the base of a removable prosthesis.
108. Compression pressing of plastics. Materials, equipment. Methods of plastering models in a ditch, plastic packaging.
109. Plastic packaging by casting. Plastering of models in a ditch. Properties of plastic for packaging.
110. Stages of polymerization of plastics. Preparation of plastic for packaging.
111. Modes of polymerization. Insulating materials.
112. Laboratory stages of manufacturing partial removable prostheses from thermoplastic materials. Comparative characteristics of prostheses with plastic and thermoplastic basis.
113. Materials used for the manufacture of removable denture bases. Acrylic plastics. Thermoplastic materials. Composition, method of application. Positive and negative properties.
114. Evaluation of the quality of polymerization of base materials. Porosity, types, causes and methods of elimination.
115. Examination of the oral cavity in patients with complete absence of teeth.
116. Preparation of the oral cavity for prosthetics with complete removable prostheses.
117. Classification of edentulous jaws. Morphological features of the structure of edentulous jaws, which should be taken into account in the manufacture of complete removable dentures.
118. Classification of the flexibility of the mucous membrane of the edentulous jaws (Lund, Suple). Values for choosing the method of obtaining prints.
119. Movable, immobile, passively mobile mucous membrane. Transitional fold. Neutral zone. Topography of the neutral zone on the upper and lower jaws.
120. Anatomical features of edentulous jaws, which are important for fixing plate removable dentures.
121. Classification of impressions for the manufacture of complete removable dentures (by the height of the edges, the degree of compression of the mucous membrane). Impression masses, their properties, indications for use.
122. The boundaries of the prosthetic bed in the manufacture of complete removable prostheses. Valve area, its topography.
123. Fixation, stabilization, balance of complete removable prostheses and factors that provide them.
124. Methods of obtaining functional impressions of edentulous jaws.
125. One-step method of making individual wax spoons on the upper and lower jaws. Method of obtaining functional prints with their help (Vasylenko's method).
126. Methods of functional imprint according to Herbst. Functional tests, their clinical substantiation.
127. Making solid individual spoons. Fitting individual spoons according to the Herbst method on the upper and lower jaws (functional tests).
128. Compression and decompression molds. Rationale for their receipt.
129. Methods of obtaining functional impressions under masticatory pressure. Indications for use.
130. Methods of obtaining a mold with differentiated pressure on the mucous membrane.
131. Determination of the central ratio of the jaws in the complete absence of teeth.
132. Rules of manufacture and requirements for wax templates with occlusal rollers.
133. Determination of the prosthetic plane in determining the central ratio.
134. Anatomical and anthropometric methods for determining the alveolar height.
135. Anatomical and physiological method for determining interalveolar height (bite height).

136. Aesthetic and functional disorders with changes between alveolar heights.
137. Fixation of the lower jaw in a neutral position.
138. Checking the correctness of determining the central ratio of the jaws.
139. Guidelines for the installation of artificial teeth.
140. Devices that reproduce the movements of the lower jaw.
141. Occluders and articulators, their classification. Principles of design.
142. Classification of devices that reproduce the movements of the lower jaw.
143. The main provisions of the articulation problem Postulates Bonneville, Hanau.
144. Articular articulation theory (Gizi, Gan au, Bonneville).
145. Spherical theory of articulation (Monson, Sapozhnikov, Chernykh, Khmelevsky).
146. Out-of-mouth methods of registration of individual movements of the lower jaw.
147. Christensen's phenomenon, intraoral method of determining the angles of the sagittal and transverse pathways (the method of Efron, Katz, Gelfand).
148. Installation of artificial teeth in complete dentures.
149. Requirements for the upper occlusal roller.
150. Requirements for the lower occlusal roller.
151. Anatomical setting of teeth.
152. Staging of teeth according to ME Vasiliev.
153. Placement of teeth on a spherical surface.
154. Check of a design of full removable prostheses.
155. Imposition of complete dentures. Adaptation.
156. Rules and recommendations for the use of complete dentures.
157. Pathological effects of materials used in orthopedic dentistry
158. Differential diagnosis, treatment and prevention
159. Diseases of the temporomandibular joint. Etiology, clinic, differential diagnosis, treatment.
160. Orthopedic interventions in the complex treatment of periodontal diseases. Elimination of traumatic occlusion; temporary and permanent splinting; design of removable and non-removable tires and tire prostheses
161. Principles of comprehensive examination and treatment of dental deformities. Mechanisms of occurrence. Clinical forms.
162. Excessive abrasion of the hard tissues of the teeth. Etiology, pathogenesis, clinical forms. Orthopedic treatment
163. Maxillofacial orthopedics and maxillofacial prosthetics of increased complexity. Definition, purpose and tasks, stages of development.
164. Dental prosthetics of patients with injuries of the maxillofacial area.
165. Classification of maxillofacial devices used to treat the wounded and sick, their characteristics.
166. Classification of fractures of the upper and lower jaws. Features and mechanism of displacement of mandibular fragments.
167. Features of traumatic injuries of the maxillofacial area.
168. Transport tires. Ligature binding. See. Indications for use. Forming and fixing devices for osteoplasty of the jaws in the wounded in the maxillofacial area and patients.
169. Contractures of the mandible, their classification. The mechanism of development of contractures. Orthopedic interventions in the treatment of contractures.
170. Etiology and clinic of microstomy. Dental prosthetics of maxillofacial wounded with microstomy.
171. Prosthetics during resection of the jaws. Direct prosthetics.
172. Ectoprostheses.
173. Implantation. Indications and contraindications for implantation.
174. Types of implants. Indications for use.
175. One-stage implantation. Indications for conducting. Prosthetics of patients with a one-stage technique.
176. Two-stage implantation. Indications for conducting. Prosthetics patients with a two-stage method.

177. Removable and conditionally removable structures of prostheses based on implants.

**The list of practical skills for final module control**

1. Selective grinding of teeth, alignment of the occlusal surface, occlusogram. 2. Production of temporary tires and splinting for fractures of the jaws.
3. Removal of crowns.
4. Correction of partial and complete removable dentures.
5. Ligature ligation of teeth.
6. Obtaining anatomical and functional prints with different impression material.
7. Obtaining models of dentitions and prosthetic bed.
8. Checking the design of the prosthesis in the partial and complete absence of teeth.
9. Preparation of teeth under a metal stamped and plastic crown.
10. Fitting an artificial crown.
11. Fixation of crowns and bridges.
12. Examine the patient. Establish a preliminary and final diagnosis based on survey data (clinical and laboratory).
13. Propose a plan of orthopedic treatment.
14. To offer the plan of preparation of an oral cavity of the patient for prosthetics.
15. Get an anatomical impression of the lower and upper jaws.
16. Fitting a hard spoon and getting functional impressions in the complete absence of teeth.
17. To fix the central occlusion at the II group of defects. Determine and fix the central ratio of the jaws in group III and group IV defects.
18. Anesthesia during tooth preparation.
19. Preparation of teeth under a metal stamped crown.
20. Preparation of teeth under a solid combined crown.
21. Fit artificial crowns.
22. Checking the design of the bridge.
23. Fit a solid bridge.
24. Fixation of crowns and bridges.
25. Check of a design of a partial and full removable prosthesis.
26. To hand over partial or full removable prostheses.
27. Correction of partial or complete removable dentures.
28. Evaluate the diagnostic model in the parallelometer and plan the design of the clasp prosthesis on the diagnostic model.
29. Fit the frame of the clasp prosthesis.
30. Pass the clasp prosthesis.
31. Staging teeth according to the method of Vasiliev.
32. The choice of the design of the bridge.
33. Ligature ligation of teeth by Ivy and Limberg.
34. Prepare the tooth root for the manufacture of a cast pin stump and model the stump.
35. Analyze the odontoparadontogram of the patient.
36. Carry out selective grinding of teeth.
37. Alignment of the occlusal curve by means of grinding teeth.
38. Alignment of the occlusal curve with an orthodontic tool.
39. Occlusogram.
40. Removal of crowns.
41. Obtaining prints for the manufacture of solid non-removable structures.

**Circumstance of admission to the final control**

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.
2. Students are allowed to take the differentiated credit, exam only if there is no debt for the implementation of the curriculum.

## 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. Klemin VA Orthopedic dentistry. Textbook / VA Klemin, VE Zhdanov. –K. : VSI «Medicine», 2010. - 224p. Recommended by the Ministry of Education and Science of Ukraine as a textbook for students of higher medical educational institutions of the IV level of accreditation GRIFF LETTER № 1 / 11-10347 dated 09.11.2010.
2. Makeev VF, Stupnitsky RM Theoretical foundations of orthopedic dentistry (textbook). –Lviv: Danylo Halytskyi LNMU, 2010, -394 p.
3. Nespryadko VP, Rozhko MM Orthopedic dentistry. Kyiv, Book Plus, 2003.
4. Chulak LD, Shuturminsky VG Clinical and laboratory stages of denture manufacturing. Odessa. Odessa honey. University, 2009, 318p.
5. Emergency care in dentistry / VA Klemin, AV Pavlenko, VN Arendaryuk, etc. Ed. B.A.Клемина. – Donetsk: Publisher Zaslavsky A.Yu., 2011. -144p.
6. Rozhko MM, Nespryadko VP, Mikhailenko TN etc. Dental prosthetic equipment. - K. ; Book Plus, 2006. - 544 p.

### 2.Additional:

1. Barava GM, Strelkovsky KM Technique of making maxillofacial prostheses. - K., 1992.
2. Levitov AN, Rubanenko VV, King MD Maxillofacial orthopedics: a course of lectures.- Poltava, 1995. - 80 p.
3. Attacks AL Articulation and prosthetics in dentistry.- K. : Health, 1984.
4. Fundamentals of deontology in dentistry. Handbook for students and doctors / Ed. GP Ruzina. - Vinnytsia: New book, 2008. -120p.
5. Maeviski SV Dental gnathophysiology. Norms of occlusion and functions of the dental system / Maeviski SV - Lviv: GalDent. - 2008. -144p.
6. Klemin VA Dental crowns made of polymeric materials. –M. : MED press-inform, 2004. -176p.
7. VA Klemin. Morphofunctional and clinical assessment of teeth with hard tissue defects / VA Klemin, AV Borisenko, PV Ishchenko. - M. : MED press-inform, 2003. - 111p.
8. Klemin VA Diagnostic model of the jaw / VA Klemin. - M. : МЕДпресс-информ, 2006. -256с.
9. Aesthetic aspects of restorative dentistry (monograph) / VN Shabanov, AP Pedorets, OV Shabanov, VA Klemin. Elista: ZAORNPP Ginger, 2010. -111p.
10. Bida VI Pathological abrasion of the hard tissues of the teeth and basic principles its treatment (Training manual). - K. : OJSC "Publishing House Kyivska Pravda, 2002. - 96p.
11. Borisenko AV, Nespryadko VP Composite filling and facing materials. A practical guide. - Kiev, Book Plus, 2002. - 221 p.
12. Вадалян Х.А. Treatment of fractures of the jaws and bones of the facial skeleton: Textbook. allowance. - 1984.
13. Barava GM, Strelkovsky KM Technique of making maxillofacial prostheses. - K., 1992.
14. Gavrilo EI Deformations of dentitions. - M. : Medicine, 1984. - 94p.
15. Hitlan EM, Mole MK Guide to clasp prosthetics. - K. : Здоровья, 2001. - 140 с.
16. Gumetsky RA, Rozhko MM, Zavadka OE, Skripnikov PM Complications of local anesthesia in the maxillofacial area: Manual in 3 volumes - Lviv: Ivano-Frankivsk: Poltava: Nautilus Publishing House, 2002. - 231 p.
17. Collection of algorithms of practical skills and abilities for the practically oriented state exam in the specialty 7.110106 "Dentistry": Textbook / LD Chulak,

- KM Kosenko, AG Gulyuk and others; For the general ed. L.D. Chulaka. - Odessa: Odessa. State Honey. University, 2004. - 264 p. - Ros. language.
18. King MD, Korobeynikov LS, Kindiy DD, Yarkovy VV Odzhubeyska OD Tactics of curation of patients in the clinic of orthopedic dentistry. Poltava: Astraya, 2003 - 52 p.
  19. King MD, Korobeynikov LS, Kindiy DD, Yarkovy VV Workshop on orthopedic dentistry. Part II. Poltava: PE "Formika", 2002. - 168 p.
  20. Levitov AN, Rubanenko VV, King MD Maxillofacial orthopedics: a course of lectures.- Poltava, 1995. - 80 p.
  21. Khvatova VA Diagnosis and treatment of functional occlusion disorders //Н.Новгород. - 1996. - 275p.
  22. Gross MD, Matthews J.D. Normalization of occlusion: Translated from English. - M.: Medicine, 1986, 288 p.
  23. Abakarov SI. Modern designs of fixed dentures.- M.: Medicine, 1994.
  24. Kalinina NV, Zagorsky VA Prosthetics with complete loss of teeth. - Medicine, 1990.
  25. Attacks AL Articulation and prosthetics in dentistry.- K.: Health, 1984.
  26. Surov ON Dental prosthetics on implants. M., Medicine, 1993, - 208p.
  27. Lebedenko IY, Peregudov AB, Glebova TE, Telescopic and locking dentures. - Moscow, 2005. - 336 p.
  28. Schwartz A.D. Solid cast clasps. - Moscow, 2005. - 70 p.
  29. Номанн А., Hilscher с. Designs of a partial denture. Scientific editor uzd. In Russian. Prof. VF Makeev. Per. with him. - Lviv: GalDent, 2002.- 192 pp., 178 figs.
  30. Abolmasov NN Selective grinding of teeth. - Smolensk, 2004. - 79 p.
  31. Жулев Е.Н. Clinic, diagnosis and orthopedic treatment of periodontal diseases. Н.Новгород. -2003. - 276 p.
  32. Жулев Е.Н. Non-removable dentures. Theory, clinic and laboratory equipment.- N / Novgorod, 1995.
  33. Nidzelsky M. Ya. Mechanisms of adaptation to dental prostheses. - Poltava: LLC Techservice Company, 2003. - 116 p.
  34. Occlusion and clinical practice / ed. I. Klineberg, R. Jagger; Per. with English; Under the general editorship М.М.Антоника. - М.: MEDpress-inform, 2006. - 200s.
  35. Bernard Tuati, Paul Miara, Dan Nathanson. Aesthetic dentistry and ceramic restorations. Per. with English. - М.: Publishing House "Higher Education and Science", 2004. - 448 p.
  36. Crispin BD, Hewlett ER, Joe J.H. Modern aesthetic dentistry. Practical basics. Per. with English; Ed. TF Vinogradova. - Publishing house "Quintessence", 2003 - 303 p.
  37. Bida VI Replacement of defects of dentitions by fixed designs of dentures. Lecture. - Kyiv, 2001. - 26p.
  38. Dental prosthetics. Educational and methodical manual for foreign students of the dental faculty // Pomainitsky VG, Fastovets EA : Днепропетровск, ОК «Друкар», 2004. - 60с.

Lector  Bida A.V. \_