



SYLLABUS OF THE COURSE ON ORTHODONTICS FOR 4TH YEAR STUDENTS

1. General information	
Name of faculty	Dentistry
Educational program (branch, speciality, level of higher education, form of education)	Field of knowledge 22 «Health care» Speciality 221 «Dentistry» second (master`s) level of higher education, full-time
Academic year	2021-2022
Name of discipline, code	Orthodontics, OK-53 Kaf_orthodontics@meduniv.lviv.ua
Department	Orthodontics Dental Medical Center of the Danylo Halytsky Lviv National Medical University, Lviv, Pekarska str 69v tel..+38 (032) 275-59-87 "Arden-Plus" Lviv, Shota Rustaveli str 32/1 tel +38(032)276-76-38
Chief of department	Prof. Chukhray N.L. nchukhray@gmail.com
Year of study	4 year
semester	7 semester
Type of discipline/ module	Required
Teachers	Chukhray N.L. – professor, nchukhray@gmail.com Bezvushko E.V. – professor, elvira7773131@gmail.com Musij-Sementsiv K.H. – assos. prof., sementsivk@gmail.com Dubetska-Hraboys I.S. -_assos. prof. dubetskaira@gmail.com
Erasmus yes/no	No
Person responsible for syllabus	Assos.prof Musij-Sementsiv Kh.H. sementsivk@gmail.com
Number of credits ECTS	3
Number of hours (lectures/practical classes/individual work of student)	10/40/40
Language of studing	Ukrainian/English

Information for consultation	Consultations are held in accordance with the schedule of consultations approved by the head of the department
Adress, telephone and schedule of clinical base	Orthodontics Dental Medical Center of the Danylo Halytsky Lviv National Medical University, Lviv, Pekarska str 69v tel..+38 (032) 275-59-87 "Arden-Plus" Lviv, Shota Rustaveli str 32/1 tel +38(032)276-76-38
2. Short annotation to the course	
Orthodontics is a discipline that allows students to understand the different classifications, dental anomalies and deformities, which have an anomaly, which use teeth, have the meaning, size and eruption of teeth, anomalies that are considered to be caused by anomalies of the dentition, give a diagnosis, how they are. Students learn the algorithm of examination of orthodontic patient, basic and additional diagnostic methods that use the integrated use and functioning of dental anomalies and deformities in different periods of personality development.	
3. Purpose and objectives of the course	
<p>1. The purpose of teaching the discipline "Orthodontics" is to study the basic classification of malocclusion, risk factors that lead to the development of anomalies and methods of their elimination, early detection of oral pathology requiring orthopedic, surgical intervention, mastering basic and additional methods diagnostics in orthodontics, acquaintance with the basic methods of treatment of orthodontic patients, classification of orthodontic equipment, study of elements of various orthodontic devices for the purpose of formation of special (professional) competences during clinical orthodontic reception.</p> <p>2. The purpose of the discipline is:</p> <ul style="list-style-type: none"> - students study the classification of malocclusion, the main risk factors of malocclusion, methods of its prevention and elimination; - preparing students for practical work with dental patients by studying the basic and additional methods of examination for various dental anomalies and deformities; - students study the main clinical signs of malocclusion; - mastering complex methods of treatment and prevention of malocclusion used in orthodontics, mastering practical skills in fixation, activation of orthodontic appliances and their correction on phantoms. <p>3. Competences and learning outcomes (general and special competencies):</p> <p>General:</p> <ol style="list-style-type: none"> 1. Ability to abstract thinking and analysis; ability to learn and master modern information and communication technologies. 2. Ability and understanding of the subject area and profession. 3. Ability to apply knowledge in practical situations. 4. Ability to communicate in the state language and the second (foreign) language. 5. Ability to search, process and analyze information from various sources in Ukrainian and foreign languages. 6. Ability to adaptation and action in new situation. 7. Ability to work autonomously, show skills and pose and solve problems. 8. Ability to choose a communication strategy. 9. Ability to work in a team. 	

10. Skills of cooperation with colleagues and patients.
 11. Ability to act on ethical considerations.
 12. Safe activities skills.
 13. Ability to evaluate and ensure the quality of work performed.
- Special (professional, subject):**
1. Recognize the moral, ethical and professional rules of the orthodontist.
 2. Understand the moral and deontological principles of a medical specialist and the rules of professional subordination in the dental clinic.
 3. Learn to promote a healthy psychological microclimate in the team, learn the basics of legal norms of the relationship between orthodontist → patient (child) → parents of the child.
 4. Know the different classifications of malocclusion.
 5. To study the main etiological risk factors for the development of dental anomalies.
 6. To study methods of prevention of dental anomalies.
 7. Know the basic and additional methods for diagnosing dental anomalies.
 8. To study the main clinical signs of malocclusion.
 9. To study complex methods of treatment of dental anomalies.
 10. Master the basic knowledge of filling in the medical history of an orthodontic patient.

4. Course details

"Orthodontics" as a discipline

- a) is based on previous study of human anatomy, histology, embryology and cytology, medical biology, medical chemistry, biological and bioorganic chemistry, physiology and pathological physiology, medical physics and integrates with these disciplines;
- b) lays the foundations for students to study such clinical disciplines as prevention of dental diseases, pediatric therapeutic dentistry, surgical dentistry;
- c) is based on the study by students of the diagnosis of dental anomalies and deformities, propaedeutics of orthopedic dentistry and integrates with these disciplines;
- d) forms an idea of the need for prevention of dental anomalies and deformities, detailed diagnosis and choice of treatment depending on the age of the child.

5. Program learning outcomes

List of learning outcomes

Learning outcome code	The content of the learning outcome	Reference to the code of the competence matrix
Kn-1; S-1; C-4.	Know the different classifications of dental anomalies and deformities; Know the etiology and pathogenesis of occlusion anomalies; Identify the leading syndromes and symptoms in an orthodontic clinic;	PRKn-1
Kn-2; S-9; C-7.	Conduct an examination of an orthodontic patient; Master basic knowledge of basic and additional diagnostic methods;	PRKn -2
Kn -3; S-8; C-7.	Conduct an examination of an orthodontic patient; Assign and analyze additional methods of examination of an orthodontic patient; Master basic knowledge of basic and additional diagnostic methods;	PRKn -3

Kn -4; S-3; S-5; S-6; C-8.	Justify and formulate a clinical diagnosis. Conduct differential diagnosis; Identify the leading syndromes and symptoms in an orthodontic clinic; Justify and formulate the clinical diagnosis of dental anomalies and deformities; Justify and formulate a syndrome orthodontic diagnosis; Master basic knowledge of the main clinical signs of malocclusion;	PRKn -4
Kn -5; S-2; S-10; C-6.	Make a plan for the prevention of dental anomalies and deformities; Identify dispensary groups for the supervision of orthodontic patients and carry out preventive measures in a group with risk factors; Carry out primary and secondary prevention of dental anomalies and deformities; Master the basic knowledge of methods of malocclusion prevention;	PRKn -6
Kn -6; S-5; S-6; C-9.	Make a treatment plan for orthodontic patients with various pathologies; Justify and formulate the clinical diagnosis of dental anomalies and deformities; Justify and formulate a syndrome orthodontic diagnosis; Master the basic knowledge of complex treatments.	PRKn -8
S-8; C-9.	Carry out differential diagnosis of somatic diseases that require special tactics of patient management in childhood; Master the basic knowledge of complex treatments.	PRKn -10
C-10.	Master the basic knowledge of filling out the medical history of an orthodontic patient.	PRKn -14
Kn -1; C-5.	Know the classification of dental anomalies and deformities, know the etiology and pathogenesis of malocclusion; Master basic knowledge of the main etiological risk factors for anomalies;	PRKn -15
S-4; C-1; C-2.	Demonstrate mastery of moral and deontological principles of a medical specialist and the principles of professional subordination at orthodontic reception; Recognize the moral and ethical and professional rules of the orthodontist; Understand the moral and deontological principles of a medical specialist and the rules of professional subordination in the dental clinic.	PRKn -19
C-3.	Learn to promote a healthy psychological microclimate in the team, learn the basics of	PRKn -20

	the legal norms of the relationship between orthodontist → paramedics → patient (child) → parents.			
6. Format and scope of the course				
Format of the course	Eye			
Kind of training	Number of hours	Number of groups		
Lectures	10			
Practical classes	40			
Seminars	--			
Individual work	40			
7. Topics and content of the course				
Cod e	Topic	Learning content	Learning outcome code	Teacher
L-1	Anomalies of individual teeth. Etiology, pathogenesis, clinic, diagnosis, prevention and treatment.	Master basic knowledge about the classification of anomalies of individual teeth: to study the main etiological risk factors for anomalies; to study methods of prevention; know the basic and additional diagnostic methods; to study the main clinical signs of anomalies; to study complex methods of treatment.	Kn-1-6; S-2, 3, 4, 7, 10, 11; C-4-9.	Assos Prof. Hordon-Zhura H.S. Assos.prof Musij-Sementsiv Kh.H. (engl.)
L-2	Anomalies of the position of individual teeth. Anomalies of the dentition. Etiology, pathogenesis, clinic, diagnosis, prevention and treatment.	Master basic knowledge about the classification of anomalies of the position of the teeth, anomalies of the dentition, types of diastema: to study the main etiological risk factors for anomalies; to study methods of prevention; know the basic and additional diagnostic methods; to study the main clinical signs of anomalies; to study complex methods of treatment.	Kn-1-6; S-2, 3, 4, 7, 10, 11; C-4-9.	Assos Prof. Hordon-Zhura H.S. Prof. Bezvushko E.V. (engl.)
L-3	Sagittal occlusion anomalies. Etiology, pathogenesis, clinic,	Master basic knowledge about sagittal occlusion anomalies: study the main	Kn-1-6; S-2, 3, 4, 7, 10, 11;	Assos Prof. Pulupiv N.V.,

	diagnosis, prevention and treatment.	etiological risk factors for anomalies; to study methods of prevention; know the basic and additional diagnostic methods; to study the main clinical signs of anomalies; to study complex methods of treatment.	C-4-9.	Prof. Chukhray N.L. (engl.)
L-4	Vertical occlusion anomalies. Etiology, pathogenesis, clinic, diagnosis, prevention and treatment.	Master basic knowledge of vertical occlusion anomalies: study the main etiological risk factors for anomalies; to study methods of prevention; know the basic and additional diagnostic methods; to study the main clinical signs of anomalies; to study complex methods of treatment.	Kn-1-6; S-2, 3, 4, 7, 10, 11; C-4-9.	Assos.prof Musij-Sementsiv Kh.H. Assos.prof Musij-Sementsiv Kh.H. (engl.)
L-5	Transversal occlusion anomalies. Etiology, pathogenesis, clinic, diagnosis, prevention and treatment.	Master basic knowledge of transversal occlusal anomalies: to study the main etiological risk factors for anomalies; to study methods of prevention; know the basic and additional diagnostic methods; to study the main clinical signs of anomalies; to study complex methods of treatment.	Kn-1-6; S-2, 3, 4, 7, 10, 11; C-4-9.	Prof. Mirchuk B.M. Prof. Chukhray N.L. (engl.)
P-1	Classification of malocclusion by Engle, Calvelis, Betelman. Six keys of occlusion by Andrews.	Know the classification of dental anomalies and deformities, etiology and pathogenesis of occlusion anomalies.	Kn-1; C-4.	Teacher
P-2	Anomalies of individual teeth. Anomalies of the number, size, shape, structure of hard tissues and time of eruption.	Master basic knowledge about the classification of anomalies of individual teeth: to study the main etiological risk factors for anomalies; to study methods of prevention; know the basic and additional diagnostic	Kn-1,2,3,4,5,6; S-2,3,4,7,10,11; C-4,5,6,7,8,9.	

		methods; to study the main clinical signs of anomalies; to study complex methods of treatment.		
P-3	Anomalies of the position of individual teeth. Treatment of anomalies of the position of individual teeth. Retention. Types of diastemas. Methods of treatment.	Master basic knowledge about the classification of anomalies of the position of the teeth: to study the main etiological risk factors for anomalies; to study methods of prevention; know the basic and additional diagnostic methods; to study the main clinical signs of anomalies; to study complex methods of treatment.	Kn-1,2,3,4,5,6; S-2,3,4,7,10,11; C-4,5,6,7,8,9.	
P-4	Anomalies and deformations of the dentition.	Master the basic knowledge of the classification of anomalies of the dentition, types of diastema: to study the main etiological risk factors of anomalies; to study methods of prevention; know the basic and additional diagnostic methods; to study the main clinical signs of anomalies; to study complex methods of treatment.	Kn-1,2,3,4,5,6; S-2,3,4,7,10,11; C-4,5,6,7,8,9.	
P-5	Sagittal occlusion anomalies. Distal bite. Etiology, pathogenesis, prevention.	Master basic knowledge of sagittal occlusion anomalies (distal): to study the main etiological risk factors for anomalies; to study methods of prevention;	Kn-1,5; S-2,3,9,10; C-4,5,6;	
P-6	Clinic and diagnosis of distal bite. Dental-alveolar and gnathic forms. Differential diagnosis of distal bite.	To study the main clinical signs of anomalies; to know the basic and additional methods of diagnostics and to be able to carry out differential diagnostics.	Kn-2,3,4; S-4,5,6,7,8; C-7,8,9.	
P-7	Complex treatment of distal bite in different	To study complex methods of treatment of	Kn-6; S-11;	

	periods of dentition(temporary, mixed, permanent forming, permanent formed dentition).	distal bite in different periods of occlusion formation.	C-9.	
P-8	Mesial bite. Etiology, pathogenesis, prevention, clinic and diagnosis.	Master basic knowledge of sagittal occlusion anomalies (mesial): to study the main etiological risk factors for anomalies; to study methods of prevention; To study the main clinical signs of anomalies; to know the basic and additional methods of diagnostics and to be able to carry out differential diagnostics.	Kn-1, 2, 3, 4, 5; S-2, 3, 4, 5, 6, 7, 8, 9, 10; C-4, 5, 6, 7, 8.	
P-9	Complex treatment of mesial bite in different periods of dentition(temporary, mixed, permanent forming, permanent formed dentition) and its prognosis.	To study complex methods of treatment of mesial bite in different periods of occlusion formation.	Kn-6; S-11; C-9.	
P-10	Vertical occlusion anomalies. Deep bite. Etiology, pathogenesis, prevention. Clinic and diagnosis of deep bite.	Master basic knowledge of sagittal occlusion anomalies (mesial): to study the main etiological risk factors of anomalies; to study methods of prevention; To study the main clinical signs of anomalies; to know the basic and additional methods of diagnostics and to be able to carry out differential diagnostics.	Kn-1, 2, 3, 4, 5; S-2, 3, 4, 5, 6, 7, 8, 9, 10; C-4, 5, 6, 7, 8.	
P-11	Complex treatment of deep occlusion in different periods of dentition(temporary, mixed, permanent forming, permanent formed dentition).	To study complex methods of treatment of deep bite in different periods of occlusion formation.	Kn-6; S-11; C-9.	
P-12	Open bite. Etiology, pathogenesis, prevention, clinic and diagnosis.	Master basic knowledge about vertical occlusion anomalies (open): study the main etiological risk	Kn-1, 2, 3, 4, 5; S-2, 3, 4, 5, 6, 7, 8, 9, 10; C-4, 5, 6, 7, 8.	

		factors of anomalies; to study methods of prevention; To study the main clinical signs of anomalies; to know the basic and additional methods of diagnostics and to be able to carry out differential diagnostics.		
P-13	Complex methods of treatment of open bite in different periods of dentition(temporary, mixed, permanent forming, permanent formed dentition).	To study complex methods of treatment of open bite in different periods of bite formation.	Kn-6; S-11; C-9.	
P-14	Transversal occlusion anomalies. Cross bite. Etiology, pathogenesis, prevention, clinic and diagnosis.	Master basic knowledge of transversal occlusion anomalies (cross): to study the main etiological risk factors for anomalies; to study methods of prevention; To study the main clinical signs of anomalies; to know the basic and additional methods of diagnostics and to be able to carry out differential diagnostics.	Kn-1, 2, 3, 4, 5; S-2, 3, 4, 5, 6, 7, 8, 9, 10; C-4, 5, 6, 7, 8.	
P-15	Complex treatment of cross bite in different periods of dentition(temporary, mixed, permanent forming, permanent formed dentition).	To study complex methods of treatment of cross bite in different periods of bite formation.	Kn-6; S-11; C-9.	
P-16	The choice of orthodontic appliances depending on the period of bite formation. Indications and contraindications to the use of fixed orthodontic appliances. Preorthodontic trainers. Removable and non-removable retainers.	Know the basic methods of treatment, make a treatment plan for orthodontic patients with various pathologies and make a choice of orthodontic appliance depending on the clinical situation.	Kn - 4, 6; S - 5,11; C- 9.	
P-17	Summary lesson. Assessment of practical skills.	To evaluate (credited / no credited) the implementation of		

		practical skills of the student according to the proposed list.		
Ind-1	Draw bite according to Engle's classification.	Visualize the classification of bite according to Engle.	Kn-1; S-4; C-4.	
Ind-2	Draw anomalies of the position of individual teeth. Draw orthodontic appliances used to treat abnormalities of the position of individual teeth.	Using the picture to visualize the anomalies of the position of individual teeth. List the structural elements of orthodontic appliances that are used to treat anomalies of the position of individual teeth.	Kn-1; S-4; C-4. Kn-6; S-11; C-9.	
Ind-3	Draw clinical types of diastema and methods of their treatment depending on the period of occlusion.	Use the image to understand the clinical types of diastema and the features of their treatment.	Kn-1; S-4; C-4. Kn-6; S-11; C-9.	
Ind-4	Draw typical forms of narrowing of the dental arches.	Using the picture to visualize different forms of deformation of the dentition.	Kn-1; S-4; C-4.	
Ind-5	Draw orthodontic appliances (removable and non-removable) for the treatment of narrowing and shortening of the dental arches.	With the help of the image to understand the features of the design of orthodontic appliances for the treatment of anomalies of the dental arches.	Kn-6; S-11; C-9.	
Ind-6	Draw forms of distal bite according to Engle's classification.	Use the picture to visualize the types of distal bite.	Kn-1; S-4; C-4.	
Ind-7	Orthodontic appliances for the treatment of distal bite depending on the period of occlusion and clinical form.	With the help of the image to understand the design features of orthodontic appliances for the treatment of distal bite.	Kn-6; S-11; C-9.	
Ind-8	Draw a mesial bite and inverted incisal overlap (false progeny).	Using the picture to visualize the types of mesial bite.	Kn-1; S-4; C-4.	
Ind-9	Draw orthodontic appliances for the treatment of mesial bite depending on the period of dentition.	Use the image to understand the design features of orthodontic appliances for the treatment of mesial bite.	Kn-6; S-11; C-9.	
Ind-10	Draw a deep bite and a deep incisal overlap.	Use the drawing to visualize a deep bite and a deep incisal overlap.	Kn-1; S-4; C-4.	

Ind-11	Draw orthodontic appliances for the treatment of deep bite, depending on the period of occlusion.	With the help of the image to understand the design features of orthodontic appliances for the treatment of deep bite.	Kn-6; S-11; C-9.	
Ind-12	Draw clinical forms of open bite (in the frontal and lateral areas).	Use the picture to visualize the types of open bite.	Kn-1; S-4; C-4.	
Ind-13	Draw orthodontic appliances for the treatment of open bite depending on the period of occlusion (plate with a bite pad, Volodkina appliance, Herbst appliance).	With the help of the image to understand the design features of orthodontic appliances for the treatment of open bite.	Kn-6; S-11; K-9.	
Ind-14	Draw clinical forms of cross bite.	Use the picture to visualize the types of cross bite.	Kn-1; S-4; K-4.	
Ind-15	Draw orthodontic appliances for the treatment of cross bite depending on the period of the bite.	Use the image to understand the design features of orthodontic appliances for the treatment of cross bite.	Kn-6; S-11; K-9.	
Ind-16	Draw removable and non-removable retainers.	Use the image to understand the design features of removable and non-removable retainers.		

- 1) Test control of knowledge;
- 2) Oral questioning and discussion of the topic;
- 3) Multimedia presentations;
- 4) Video materials;
- 5) Practice of practical skills with the help of plaster models, X-rays, on each other (with the use of dental instruments, impression materials).

8. Verification of learning outcomes

Current control

Learning outcome code	Code type to borrow	Method of verifying learning outcomes	Enrollment criteria
Kn-1; C-4.	P-1; Ind-1.	Test control; determination of 6 occlusion keys on diagnostic models.	Evaluation: Test control: 50-60% - "satisfactory", 70-80% - "good", 90-100% - "excellent";
Kn-1,2,3,4,5,6; S-2,3,4,7,10,11; C-4,5,6,7,8,9.	P-2; Ind-2; L-1.	Test control; Analysis of situational tasks; Analysis of orthopantomograms.	Situational tasks (includes three questions): "excellent" - gave
Kn-1,2,3,4,5,6; S-2,3,4,7,10,11;	P-3; Ind-3; L-2.	Test control;	

C-4,5,6,7,8,9.		Analysis of situational tasks; Analysis of orthopantomograms.	correct, complete answers to 3 control questions; "Good" - gave correct, complete answers to 2 control questions and one incomplete or inaccurate answer - to the third; "Satisfactory" - gave the correct answer to one control question and two incomplete or inaccurate answers - to two questions. Practical experience: Credited / not credited
Kn-1,2,3,4,5,6; S-2,3,4,7,10,11; C-4,5,6,7,8,9.	P-4; Ind-4.	Test control; Determination of malocclusion on models; Imprinting and casting models.	
Kn-1,5; S-2,3,9,10; C-4,5,6;	P-5; Ind-5; L-3.	Test control; Analysis of situational tasks; Analysis of orthopantomograms. Development of a set of myogymnastic exercises for the treatment and prevention of distal bite.	
Kn-2,3,4; S-4,5,6,7,8; C-7,8,9.	P-6; Ind-6; L-3.	Test control; Analysis of situational tasks; Determination of malocclusion on models. Eschler-Bitner test.	
Kn-6; S-11; C-9.	P-7; Ind-7; L-3.	Test control; Analysis of situational tasks; Determining the type of device depending on the pathology. Methods of activating orthodontic appliances.	
Kn-1, 2, 3, 4, 5; S-2, 3, 4, 5, 6, 7, 8, 9, 10; C-4, 5, 6, 7, 8.	P-8; Ind-8; L-3.	Test control; Analysis of situational tasks; Analysis of orthopantomograms. Determination of malocclusion on models. Development of a set of myogymnastic exercises for the treatment and prevention of mesial occlusion.	
Kn-6; S-11; C-9.	P-9; Ind-9; L-3.	Test control; Analysis of situational tasks; Determining the type of device depending on the pathology. Methods of	

		activating of orthodontic appliances.
Kn-1, 2, 3, 4, 5; S-2, 3, 4, 5, 6, 7, 8, 9, 10; C-4, 5, 6, 7, 8.	P-10; Ind-10; L-4.	Test control; Analysis of situational tasks; Analysis of orthopantomograms. Determination of malocclusion on models. Imprinting, casting models.
3n-6; S-11; C-9.	P-11; Ind-11; L-4.	Test control; Analysis of situational tasks; Determining the type of device depending on the pathology. Methods of activating orthodontic appliances.
Kn-1, 2, 3, 4, 5; S-2, 3, 4, 5, 6, 7, 8, 9, 10; C-4, 5, 6, 7, 8.	P-12; Ind-12; L-4.	Test control; Analysis of situational tasks; Analysis of orthopantomograms. Determination of US on models. Measurement of diagnostic models.
Kn-6; S-11; C-9.	P-13; Ind-13; L-4.	Test control; Analysis of situational tasks; Determining the type of device depending on the pathology. Methods of activating of orthodontic appliances.
Kn-1, 2, 3, 4, 5; S-2, 3, 4, 5, 6, 7, 8, 9, 10; C-4, 5, 6, 7, 8.	P-14; Ind-14; L-5.	Test control; Analysis of situational tasks; Analysis of orthopantomograms. Determination of malocclusion on models. Measurement of diagnostic models.
Kn-6; S-11; C-9.	P-15; Ind-15; L-5.	Test control; Analysis of situational tasks; Determining the type of device depending on the pathology. Methods of

		activating of orthodontic appliances.	
Kn - 4, 6; S – 5,11; C – 9.	P-16; Ind-16; L-5.	Test control; Determining the type of device depending on the pathology. Methods of activating of orthodontic appliances. Drawing up a malocclusion prevention plan.	
	II-17;	Assessment (credited/ no credited) of practical skills.	
Final control			
General evaluation system	Participation in the work during the semester / exam - 60% / 40% on a 200-point scale		
Rating scales	traditional 4-point scale, multi-point (200-point) scale, ECTS rating scale		
Conditions of admission to the final control	The student attended all practical (laboratory, seminar) classes and received at least 120 points for current performance		
Type of final control	Methods of final control	Enrollment criteria	
Exam	All topics submitted for current control must be included. Grades from the 4-point scale are converted into points on a multi-point (200-point) scale in accordance with the Regulation "Criteria, rules and procedures for evaluating the results of students' learning activities"	The maximum number of points is 200. The minimum number of points is 120.	
Criteria for assessing the exam / differentiated test			
Exam	The exam is conducted in writing according to the schedule and includes 80 test tasks weighing 1 point each. The form of the examination should be standardized and include control of theoretical and practical training. The maximum number of points that a student can score when taking the exam is 80. The minimum number of points in the exam - not less than 50.		The grade for the discipline, which ends with an exam, is defined as the sum of points for the current educational activity (not less than 72) and points for the exam (not less than 50 points). From 170 to 200 points - excellent; From 140 to 169 points - good; From 139 points to 122 - satisfactory; Below the minimum number of points that a student must score (<50) - unsatisfactory.
Differentiated credit			

The maximum number of points that a student can score for the current academic activity for admission to the exam (differentiated test) is 120 points. The minimum number of points that a student must score for the current academic activity for admission to the exam (differentiated test) is 72 points. The calculation of the number of points is based on the grades obtained by the student on a 4-point (national) scale during the study of the discipline, by calculating the arithmetic mean (CA), rounded to two decimal places. The resulting value is converted into points on a multi-point scale as follows:

$$x = CA \times 120/5$$

9. Course policy

Indicates the policies of academic integrity, the specific policies of the program that are relevant to the course

10. Literature

Required

1. Flis PS Orthodontics. - Vinnytsia: "New Book", 2006. - 308 p.
2. Schmut GPF, Holtgrave EA, Drescher D. Practical orthodontics. Ed. prof. P.S. Flis. Per. with him. - Lviv: GalDent, 1999.
3. Stephen Williams. A short guide to telegraphy. Ed. prof. P.S. Flis. - Lviv, 2006.
4. Sharova GV, Rogozhnikov GI Pediatric orthopedic dentistry. M., "Medicine", 1991. p. 289.
5. Khoroshilkina F.Ya. Orthodontics. Defects of teeth, dentitions, occlusion anomalies, morphofunctional disorders in the maxillofacial region and their complex treatment Medical Information Agency (MIA), 2010, - 592p.
6. Flis PS, Omelchuk NA, Rashchenko NV et al. Orthodontics. - K.: Medicine », 2008 p. - 336 c.
7. Doroshenko SI, Kulginsky EA Fundamentals of teleradiography K.: Health, 2007. - 72 p.

Additional:

1. Bennett J., R. McLowlin, ed. Flis P.S. "Bag of orthodontic treatment by the technique of a straight arch", Lviv: "GalDent", 2001.
2. Golovko NV Prevention of dental anomalies. - Vinnytsia: Nova Kniga, 2005.-271p.
3. Declan Millet, Richard Welbury. Solving problems in orthodontics and pediatric dentistry. - M.: MEDpress-Inform, 2009. - 199 p.
4. Doroshenko SI, Kulginsky EA Fundamentals of teleradiography. - K.: Zdorovja, 2007. - 70 p.
5. Kanyura OA, Savichuk NO, Golubchikov MV The main directions of reforming the children's dental service. - Kyiv: Medicine, 2010.
6. Kuroyedova VD, Dmitrenko MI Modern methods of prevention of dental anomalies and deformations // World of Orthodontics. - Kyiv: Visnyk stomatologii, 2003. - №1 (4), p. 6-9
7. McLaughlin R., J. Bennett, X. Treviso / ed. Flis P.S. "Systematized mechanics of orthodontic treatment", Lviv: "GalDent", 2005.
8. Malanchuk VO, Borisenko AV, Flis PS etc. Fundamentals of dentistry. - Kyiv: "Medicine", 2009.
9. Persin LS Orthodontics M. OJSC "Medicine", 2004.
10. Persin LS Orthodontics. Modern methods for diagnosing maxillofacial anomalies. A guide for doctors. - M.: OOO «Informknyga », 2007. – 248p.
11. Stephen Williams. A short guide to telegraphy. Ed. prof. P.S. Flis. - Lviv, 2006.
12. Stanislav V. Maevski. Dental gnathology. - Lviv: GalDent, 2008.
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16. RavindaNanda, Flavio Andres Ubire. Temporary Anhorage Devises in orthodontis. - Mosby, 2008. - 432p.

17. Alexander R.G. The 20 principles of the ALEXANDER DISIPLINE. - Quintessence Publishing Co., 2008. - 236p.

11. Equipment, logistics and software of the discipline / course

12. Additional information

All other information important for the student, which is not included in the standard description, for example, contact details of the person responsible for the educational process at the department, information about the scientific circle of the department, information about routes, information about the need to equip themselves with occupational safety