



## SYLLABUS OF THE ELECTIVE COURSE ON ORTHODONTICS FOR 5TH YEAR STUDENTS

<b>1. General information</b>	
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 <a href="mailto:Kaf_orthodontics@meduniv.lviv.ua">Kaf_orthodontics@meduniv.lviv.ua</a>
Department	Orthodontics <u>Dental Medical Center of the Danylo Halytsky Lviv National Medical University, Lviv, Pekarska str 69v</u> 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. <a href="mailto:nchukhray@gmail.com">nchukhray@gmail.com</a>
Year of study	5 year
semester	IX – X
Type of discipline/ module	Required
Teachers	Chukhray N.L. – professor, <a href="mailto:nchukhray@gmail.com">nchukhray@gmail.com</a> Bezvushko E.V. – professor, <a href="mailto:elvira7773131@gmail.com">elvira7773131@gmail.com</a> Musij-Sementsiv K.H. – assos. prof., <a href="mailto:sementsivk@gmail.com">sementsivk@gmail.com</a> <a href="mailto:dubetskaira@gmail.com">Dubetska-Hraboys I.S. - assos. prof.</a> <a href="mailto:dubetskaira@gmail.com">dubetskaira@gmail.com</a>
Erasmus yes/no	No
Person responsible for syllabus	Assos.prof Musij-Sementsiv Kh.H. <a href="mailto:sementsivk@gmail.com">sementsivk@gmail.com</a>
Number of credits ECTS	3
Number of hours (lectures/practical classes/individual work of student)	90/60/30
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	<p>Orthodontics  <u>Dental Medical Center of the Danylo Halytsky Lviv National Medical University, Lviv, Pekarska str 69v</u>          Tel.+38 (032) 275-59-87          "Arden-Plus" Lviv, Shota Rustaveli str 32/1          Tel. +38(032)276-76-38</p>
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## 2. Short annotation to the course

**Orthodontics** is a discipline that allows students to learn about different classifications of dental anomalies and deformities; Features of filling in the medical card of an orthodontic patient; Anthropometric methods of examination, such as: craniometry, photometry, biometric measurements of diagnostic models; X-ray examination methods such as: targeted radiography, orthopantomography, hand radiography, computed tomography and teleradiography and the method of its conduct and decipherment according to Schwartz. Students study modern methods of treatment of dental anomalies and deformities in children and adult patients; Recurrences after orthodontic treatment: causes and their prevention. Students gain knowledge on the classification of orthodontic appliances, in particular the design features of mechanically-operated removable devices, design features and indications for the use of mechanically-operated non-removable devices: including features of braces, orthodontic mini-implants and miniplates, functional-guide devices operating devices, preventive devices, devices of extraoral action, devices of combined action, retention devices.

Students study the etiology, pathogenesis, clinic, diagnosis and prevention of congenital facial defects, their classification. Get acquainted with the organization of preventive and curative care for children with these developmental abnormalities, comprehensive phased treatment of children with adhesions of the upper lip, alveolar sprout, hard and soft palate, the role of orthodontic treatment and rehabilitation of children with this pathology. They study the causes of defects of teeth and dentitions in children, targeted preventive measures, features of examination of children with defects of teeth and dentitions, traumatic injuries of teeth in children, their classification and diagnosis. Students get acquainted with the features of pediatric prosthetics, determining the timing of orthopedic treatment and designs of dental appliances, designs of dentures in children to restore the anatomical shape of teeth (tabs, pin teeth and crowns), indications for their use. The study of the discipline ends with the writing and defense of a medical history.

## 3. Purpose and objectives of the course

The purpose of teaching the discipline "Orthodontics" is to study the etiology and pathogenesis of dental anomalies and deformities, congenital facial defects, dental injuries, defects of teeth and dentition, mastering the basic and additional diagnostic methods in orthodontics, early detection of surgical pathology. intervention, prosthetics, acquaintance with the main methods of treatment of orthodontic patients, classification of orthodontic equipment, for the possibility of their further use during clinical admission of patients and the formation of special (professional) competencies in the orthodontic clinic.

### **Learning objectives:**

- students study the classifications of dental anomalies and deformities, congenital malformations and injuries, defects of teeth and dentition, the main risk factors for anomalies and deformities, congenital malformations and injuries, defects of teeth and dentition, methods of prevention and elimination;

- preparing students to work in the clinical dental office by studying the basic and additional methods of examination for various dental anomalies and deformities, birth defects and nonunions, injuries, defects of teeth and dentitions.
- students study the main clinical signs of anomalies and deformities of the dental system, congenital malformations and nonunions, injuries, defects of teeth and dentition;
- mastering on phantoms of complex methods of treatment of anomalies and deformations of the dental system, which are used in orthodontics.
- Study of the classification of orthodontic equipment, in particular design features and indications for its use.

Competences and learning outcomes (general and special competencies)

**General:**

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.

Professional:

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 the legal norms of the relationship between orthodontist → paramedics → patient (child) → parents.
4. Know the different classifications of dental anomalies and deformities, congenital malformations, dental injuries, dental defects and dentition.
5. To study the main etiological risk factors for the development of anomalies and deformities, congenital malformations of the face, dental injuries, defects of teeth and dentition;
6. To study prevention methods to prevent the development of anomalies and deformities, congenital malformations of the face, dental injuries, defects of teeth and dentitions;
7. To study the main and additional methods of diagnosis in orthodontics;
8. To study the main clinical signs of anomalies and deformations of the thyroid gland, congenital malformations of the face, dental injuries, defects of teeth and dentitions;

9. To study complex methods of treatment of anomalies and deformations of the thyroid gland, congenital malformations of the face, dental injuries, defects of teeth and dentitions;
10. Learn to fill 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	PRKn -6

	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;	
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 the legal norms of the relationship between orthodontist → paramedics → patient (child) → parents.	PRKn -20

## 6. Format and scope of the course

<b>Format of the course</b>	Eye	
Kind of training	Number of hours	Number of hours
Lectures	--	--
Practical classes	60	
Seminars	--	--
Individual work	30	

## 7. Topics and content of the course

Code	Topic	Learning content	Learning outcome code	Teacher
P-1	Clinical examination of an orthodontic patient. Classifications of dental and maxillofacial anomalies (Engle, Calvelis, Bethelman, WHO). Six keys to occlusion by Andrews. Functional methods of examination. Clinical functional tests (Eschler-Bittner, Iljina-Markosjan).	Know the classification, etiology and pathogenesis of dental anomalies and deformities. Know and be able to scale the algorithm of clinical examination, know the indications and be able to analyze additional methods of examination of an orthodontic patient. Know the features of filling the medical history of an orthodontic patient.	Kn-1,2,3,7; S-1,2,3,4?,12; C-2,3,4,5,7,10.	
P-2	Anthropometric methods of examination: craniometry, photometry, biometric measurements of diagnostic models according to Pont, Korkhaus. Definition of Tonn indexes, Z.I. Dolgopolova. Measurement of the width and length of the dentition, the size of the apical base by the method of Snagina. Determination of the deficit of space in the dental arch for an abnormally located tooth. Determination of the proportionality of the segments of the dentition by Gerlah, construction of the Hawley- Herber – Herbst diagram.	Know the algorithm of clinical examination of an orthodontic patient, know the indications and be able to analyze additional methods of examination of an orthodontic patient.	Kn-2,3; S-2,3; C-7.	
P-3	X-ray examination methods: targeted	Know the indications and be	Kn-3; S-3;	

	<p>radiography, orthopantomography, hand radiography, computed tomography. Teleradiography. Methods of teleradiography, deciphering of teleradiography according to Schwartz.</p>	<p>able to analyze additional methods of examination of an orthodontic patient, including targeted radiography, hand radiography, orthopantomography and TRG.</p>	<p>C-7.</p>	
P-4	<p>Modern methods of treatment of dental anomalies and deformities. Biomechanics of orthodontic movement of teeth. Features of orthodontic treatment of adult patients. Orthodontic mini-implants: indications, contraindications, possible complications. Indications for orthognathic surgery. Retention period. Relapses after orthodontic treatment: causes and prevention.</p>	<p>Know the basic and modern methods of treatment of orthodontic patients with various pathologies of the US.</p>	<p>Kn-6; S-8,11; C-9.</p>	
P-5	<p>Classification of orthodontic appliances. Features of design and indications for the use of mechanically operating removable devices (expansion plates, Osadchy's device, Doroshenko's device). Features of construction of mechanically operating fixed devices (bracket systems, Hyrex device, bi- and quad-helix, devices for distalization of teeth, Herbst device). Features of application of bracket systems. Devices of extraoral action (facial arch, facial mask).</p>	<p>Know the basic methods of prevention of dental anomalies and deformities. Be able to make a set of preventive measures to prevent the formation of orthodontic pathology using orthodontic appliances. Know the basic methods of treatment of orthodontic patients with various pathologies</p>	<p>Kn-5,6; S-9,10,11; C-9.</p>	

P-6	<p>Features of designing functional-directing devices (Schwartz's cap, Bynin's cap, Bruckle's device, plates with occlusal overlays). Indications for use. Peculiarities of designing functional-operating devices (Andresen-Hojpl monoblock, Frenkel I-IV function regulators, Balters bionators, twin blocks, Klamt open activator). Their application. Preventive devices. Myofunctional trainers. Retention devices.</p>	<p>Know the basic methods of prevention of dental anomalies and deformities. Be able to make a set of preventive measures to prevent the formation of orthodontic pathology using orthodontic appliances. Know the basic methods of treatment of orthodontic patients with various pathologies of the US</p>	<p>Kn-5,6; S-9,10,11; C-6,9.</p>	
P-7	<p>Etiology, pathogenesis, clinic, diagnosis and prevention of congenital facial defects. Classification of congenital nonunion of the maxillofacial area. Organization of preventive and curative care for children with these developmental abnormalities. Complex step-by-step treatment of children with nonunion of the upper lip, alveolar sprout, hard and soft palate. The role of orthodontic treatment and rehabilitation of children with this pathology. Possible complications and their prevention. Method of manufacturing orthodontic appliances for nonunion of the lip, alveolar sprout, hard and soft palate (preformed corrective plate, floating obturators of complex design, orthodontic appliances).</p>	<p>Know the classification, etiology and pathogenesis of dental anomalies and deformities. To know the clinical features of different forms of orthodontic pathology in order to substantiate and form a clinical diagnosis and differential diagnosis of dental anomalies and deformities. Know the basic methods of prevention of dental anomalies and deformities. Be able to make a set of preventive measures to prevent the formation of orthodontic pathology using orthodontic appliances. Know the basic methods of treatment and be</p>	<p>Kn-1,4,5,6; S-4,5,6,7,8,9,10,11; C-4,5,6,8,9.</p>	



		able to make a treatment plan for orthodontic patients with various pathologies.		
P-8	<p>Causes of defects of teeth and dentitions in children, prevalence among children. Targeted preventive measures. Features of examination of children with defects of teeth and dentitions. Purpose and clinical and biological substantiation of children's prosthetics. Rational designs of bridges in children, features of manufacture and indications for use. The value of the condition of periodontal tissues of abutment teeth in determining the design of the prosthesis. Indications for the manufacture of partial removable dentures in children. Features of their design, methods of fixation, replacement procedure, possible complications and their causes. Requirements for dental materials used in the manufacture of children's dentures.</p>	<p>Know the classification, etiology and pathogenesis of dental anomalies and deformities. Know the algorithm of clinical examination of an orthodontic patient. Know the indications and be able to analyze additional methods of examination of an orthodontic patient. To know the clinical features of different forms of orthodontic pathology in order to substantiate and form a clinical diagnosis and differential diagnosis of dental anomalies and deformities. Know the basic methods of prevention of dental anomalies and deformities. Be able to make a set of preventive measures to prevent the formation of orthodontic pathology using orthodontic appliances. Know the basic methods of treatment and be able to make a treatment plan for orthodontic patients with various</p>	<p>Kn-1,2,3,4,5,6; S-2,3,4,7,10,11; C-4,5,6,7,8,9.</p>	

		pathologies of the US.		
P-9	<p>Traumatic tooth injuries in children, their classification and diagnosis. Features of injury in children, possible complications, orthopedic treatment. Determining the terms of orthopedic treatment and rational designs of dental devices. Designs of dentures in children to restore the anatomical shape of the teeth (tabs, pin teeth and crowns). Indications for their use.</p>	<p>Know the classification, etiology and pathogenesis of dental anomalies and deformities. Know the indications and be able to analyze additional methods of examination of an orthodontic patient. To know the clinical features of different forms of orthodontic pathology in order to substantiate and form a clinical diagnosis and differential diagnosis of dental anomalies and deformities. Know the basic methods of prevention of dental anomalies and deformities. Be able to make a set of preventive measures to prevent the formation of orthodontic pathology using orthodontic appliances. Know the basic methods of treatment and be able to make a treatment plan for orthodontic patients with various pathologies of the US.</p>	Kn-1,3,4,5,6; S-3,4,7,10,11; C-4,5,6,7,8,9.	
P-10	<p>Defense of medical history. Final lesson. Assessment of practical skills.</p>	<p>Know the features and be able to fill the medical history of an orthodontic patient.</p>	Kn-7; S-7; C-10.	

Ind-1 (individual work)	Writing a medical history (filling in the "Medical card of an orthodontic patient" № 043-1 / o). Substantiation of orthodontic treatment and choice of orthodontic appliances. Treatment prognosis. Methods of retention. Prevention of possible complications during and after orthodontic treatment.	Know the features and be able to fill in the medical history of an orthodontic patient.	Kn-7; S-7; C-10.	
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- 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-1,2,3,7; S-1,2,3,4?,12; C-2,3,4,5,7,10.	P-1 Ind-1	Test control; determination of 6 occlusion keys on diagnostic models.	Evaluation: <b>Test control:</b> 50-60% - "satisfactory", 70-80% - "good", 90-100% - "excellent"; <b>Situational tasks</b> (includes three questions): <b>"excellent"</b> - gave correct, complete answers to 3 control questions; <b>"Good"</b> - gave correct, complete answers to 2 control questions and one incomplete or inaccurate answer - to the third; <b>"Satisfactory"</b> - gave the correct answer to one control question and two incomplete or inaccurate answers -
Kn-2,3; S-2,3; C-7.	P-2	Test control; Analysis of situational tasks; Analysis of orthopantomograms.	
Kn-3; S-3; C-7.	P-3	Test control; Analysis of situational tasks; Analysis of orthopantomograms.	
Kn-6; S-8,11; C-9.	P-4	Test control; Determination of malocclusion on models; Imprinting and casting models.	
Kn-5,6; S-9,10,11; C-9.	P-5	Test control; Analysis of situational tasks; Determining the type of device depending on the pathology. Methods of activating orthodontic appliances.	
Kn-5,6; S-9,10,11; C-6,9.	P-6	Test control; Analysis of situational tasks; Determining the type of device depending on the pathology.	
Kn-1,4,5,6;	P-7	Test control;	

S-4,5,6,7,8,9,10,11; C-4,5,6,8,9.		Analysis of situational tasks; Analysis of orthopantomograms. Determining the type of device depending on the pathology.	to two questions. <b>Practical experience:</b> 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-8	Test control; Analysis of situational tasks; Analysis of orthopantomograms. Determining the type of device depending on the pathology.	
Kn-1,3,4,5,6; S-3,4,7,10,11; C-4,5,6,7,8,9.	P-9	Test control; Analysis of situational tasks; Analysis of orthopantomograms. Determining the type of device depending on the pathology.	
Kn-7; S-7; C-10.	P-10 Ind-1	Test control; History of disease; Assessment (credited/ no credited) of practical skills.	
<b>Final control</b>			
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	
credit	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.	
<b>Criteria for assessing the exam / differentiated test</b>			
exem	In this field it is necessary to describe the order and a technique of carrying out final control / all its stages	It is necessary to define in points evaluation criteria for each concrete stage of final control	
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:

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

### **Criteria for assessing the objective structured practical (clinical) exam / Complex of practice-oriented exam of the Master's thesis**

#### **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.
13. William R. Profit. Modern orthodontics. - M .: MEDpress-Inform, 2006. - 559 p.
14. Kuroedova VD, Zhdan VN, Galich LB etc. Atlas of orthodontic appliances. - Poltava: "Dyvosvit", 2011 - 156 p.
15. Ravindra Nanda, Sunil Kapila. Current therapy in orthodontics. - Mosby, 2010. -

396p.

16. RavindaNanda, Flavio Andres Ubire. Temporary Anorage 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; information about the place of classes; links to website / department pages, etc.