

**EDUCATIONAL COMPONENT SYLLABUS  
ORTHODONTICS**

Specialty: **221 "Dentistry"**

Educational and professional program: **Dentistry**

Component code in the educational program: **OK 31**

Level of higher education: **second (master's)**

Form of education: **full-time (full-time)**

Year of study : **4**

Semester(s): **VII (fall), VIII (spring )**

Type of educational component: **mandatory**

Academic year: **2027 -20 28**

Volume: **3 ECTS credits ( 90 hours)**

Training sessions: **lectures , practical classes , consultations**

Final control: **PND, exam**

Prerequisites :**human anatomy; histology, embryology and cytology; medical biology; medical chemistry; biological and bioorganic chemistry; microbiology, virology and immunology; therapeutic dentistry; orthopedic dentistry; surgical dentistry; pediatric therapeutic dentistry; pediatric surgical dentistry.**

Department/division: **Department of Pediatric Dentistry and Implantology**, 51 Peremohy Ave., 5th floor

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Educational component page in the KNU Distance Learning System ( Moodle ) :  
<https://distance.knu.edu.ua/course/view.php?id=2685>

**DESCRIPTION OF THE EDUCATIONAL COMPONENT**

The educational discipline "Orthodontics" is aimed at students mastering diagnostic techniques and manipulations for the treatment and prevention of dental and jaw anomalies at different stages of a child's development.

**OBJECTIVE** :is determined by the **final goals** established on the basis of the OPP for the training of a doctor by specialty in accordance with the block of its sections (natural science training), and is the basis for building the content of the academic discipline.

**LEARNING OUTCOMES:**

1. To substantiate and formulate a preliminary clinical diagnosis of dentofacial anomalies and deformities:
  - anomalies in the size of individual teeth;
  - anomalies in the shape of individual teeth;
  - anomalies in the number of individual teeth;
  - diastema and trema;
  - crowding of teeth;
  - tortoanomalies ;
  - vestibulo -oral position of the teeth;
  - prognathia (distal bite);
  - progeny ( mesial bite);
  - open bite;
  - deep bite;
  - unilateral or bilateral crossbite.
2. Conduct differential diagnostics of diseases of the dentofacial apparatus:

- with anomalies in the size of individual teeth;
- with anomalies in the shape of individual teeth;
- with anomalies in the number of individual teeth;
- with diastemas and tremors ;
- with crowding of teeth;
- with tortoanomalies ;
- with vestibulo- oral position of the teeth;
- with prognathia (distal bite);
- with progeny ( mesial bite);
- with an open bite;
- with a deep bite;
- with unilateral or bilateral crossbite.

3. Conduct differential diagnosis of somatic diseases that require special management tactics for patients with:

- heart defects;
- endocrine pathology;
- pathology of the musculoskeletal system;
- epilepsy;
- bronchial asthma;
- diabetes;
- HIV infection/AIDS;
- viral hepatitis;
- diphtheria;
- tuberculosis.

4. Conduct examinations of orthodontic patients:

- with anomalies in the size of individual teeth;
- with anomalies in the shape of individual teeth;
- with anomalies in the number of individual teeth;
- with diastemas and tremas ;
- with crowded teeth;
- with tortoanomalies ;
- with vestibulo -oral position of teeth;
- with prognathia (distal bite);
- with progeny ( mesial bite);
- with an open bite;
- with a deep bite;
- with one- or two-sided crossbite.

5. Conduct primary and secondary prevention of the most common dental and jaw anomalies and deformities:

- anomalies in the size of individual teeth;
- anomalies in the shape of individual teeth;
- anomalies in the number of individual teeth;
- diastema and trema;
- crowding of teeth;
- tortoanomalies ;

- vestibulo -oral position of the teeth;
- prognathia (distal bite);
- progeny ( mesial bite);
- open bite;
- deep bite;
- unilateral or bilateral crossbite.

## **CONTENT OF THE EDUCATIONAL COMPONENT**

### **of lecture topics (10 hours):**

1. Etiology, classifications, clinical features, diagnostics, prevention and treatment in different age periods of anomalies of individual teeth, tooth position, anomalies of the shape and size of dentition.
2. Etiology, classifications, clinical features, diagnostics, prevention and treatment in different age periods of prognathic bite.
3. Etiology, classifications, clinical features, diagnostics, prevention and treatment in different age periods of progenic occlusion.
4. Etiology, classifications, clinical features, diagnostics, prevention and treatment of vertical malocclusions at different ages.
5. Etiology, classifications, clinical features, diagnostics, prevention and treatment of crossbite in different age periods.

### **List of topics for practical classes ( 40 hours ) :**

1. Anomalies of individual teeth. Anomalies of the number of teeth. Supernumerary teeth. Anomalies of tooth eruption. Anomalies of tooth position
2. Dental anomalies.
3. Etiology, pathogenesis, classifications, clinical features, diagnostics, prevention and treatment of progenic occlusion in different age periods.
4. Etiology, pathogenesis, classifications, clinical features, diagnostics, prevention and treatment of prognathic bite in different age periods.
5. Etiology, pathogenesis, classifications, clinical features, diagnostics, prevention and treatment of deep bite in different age periods.
6. Etiology, pathogenesis, classifications, clinical features, diagnostics, prevention and treatment of open bite in different age periods.
7. Etiology, pathogenesis, classifications, clinical features, diagnostics, prevention and treatment of crossbite in different age periods.
8. Protection educational case history of an orthodontic patient. **Final lesson**

### **List of topics for student independent work (40 hours)**

1. Preparation for practical classes (theoretical, development of practical skills and abilities)
2. Writing an educational case history for an orthodontic patient.
3. Planning the duration of orthodontic treatment depending on the degree of its severity and the relationship between the doctor and sick.
4. Diagnosis, clinical features and treatment of combined forms of occlusion anomalies: progenic occlusion with deep and open bite.
5. Diagnosis, clinical features and treatment of combined forms of occlusion anomalies: prognathic occlusion with deep and open occlusions.
6. Rickets, the effect of rickets on the formation of a true open bite.
7. Application of basic methods of analysis of cephalometric radiographs in lateral projection in sagittal occlusion anomalies.

8. The use of myofunctional exercise machines – trainers in a complex of therapeutic and preventive measures to eliminate dental and jaw anomalies.

VTS is aimed at deepening and consolidating theoretical knowledge obtained during classroom training and contributes to the formation of professional competencies. The results of VTS are subject to control and are included in the final knowledge control.

**Consultations:** online, with prior registration on the course page in the Distance Learning System.

**Teaching methods:** lecture, exercises and practical work, solving situational tasks and cases, standardized patient method

## EVALUATION

**Current educational activity (PND).** Assessment of the success of education seekers is carried out in accordance with the Instructions for assessing the educational activity of higher education seekers at KhNMU ( <https://knmu.edu.ua/documents/normatyvni-dokumenty-navchalnogo-proczesu/> ). The assessment for a practical or final lesson is from 2 to 5 points. Submitting assignments late for unwarranted reasons entails a reduction in the grade in accordance with the percentage of delay in time from the time of completing the assignment. Assignments are checked within 24 hours. Grades are posted in the electronic journal. Unsatisfactory grades are worked out in accordance with the Regulations on the procedure for working out academic classes by students of KNMU ( [https://knmu.edu.ua/wp-content/uploads/2021/05/polog\\_vidprac\\_zaniat.pdf](https://knmu.edu.ua/wp-content/uploads/2021/05/polog_vidprac_zaniat.pdf) ).

At the end of the semester, the average grade for the semester is converted into a multiple-point grade (70 – 120 points) in accordance with Table 1 of the Assessment Instructions (see above). The arithmetic average of the PND for both semesters constitutes **the total learning activity (GNA)** .

**Individual tasks(I)** are rated up to 10 points.

**Final control.** The condition for admission to the differential test is to obtain 70 points of the CIS. The grade for the differential test is from 50 to 80 points.

**Discipline grade (OD).**  $OD = ZND + IZ + exam$ .

**Appealing the results of the final control** is carried out in accordance with the procedure established at the KhNMU ( [https://knmu.edu.ua/wp-content/uploads/2021/05/polog\\_apel\\_kontrol.pdf](https://knmu.edu.ua/wp-content/uploads/2021/05/polog_apel_kontrol.pdf) ).

## EDUCATION COMPONENT POLICIES

**Recommendations for course work:** actively participate in all forms of work in classes, devote 1-2 hours daily to independent work and preparation for classes, ask questions during classes , attend consultations, submit assignments on time , and complete all forms of control.

**Attendance at classes.** Attendance at lectures and practical classes is mandatory. The uniform during offline classes is a white medical gown. If you are more than 5 minutes late, you may not be allowed to attend the class. Missed classes are made up in accordance with the Regulations on the procedure for students of KNMU to complete classes ( [https://knmu.edu.ua/wp-content/uploads/2021/05/polog\\_vidprac\\_zaniat.pdf](https://knmu.edu.ua/wp-content/uploads/2021/05/polog_vidprac_zaniat.pdf) ).

**Academic integrity.** KhNMU stands on positions of zero tolerance for manifestations of academic dishonesty . Any violations of the principles of academic integrity entail liability in accordance with the procedure established at KNMU ( [https://knmu.edu.ua/wp-content/uploads/2021/05/polog\\_ad-1.pdf](https://knmu.edu.ua/wp-content/uploads/2021/05/polog_ad-1.pdf) ).

**The use of electronic gadgets and artificial intelligence tools** is permitted only with the permission of the teacher.

**Policy on individuals with special educational needs.** Applicants with special educational needs should contact a teacher to develop an individual educational trajectory.

**Teacher response time:** 24 hours.

**Technical requirements for working on the course:**

- access to a computer, laptop, tablet or smartphone
- Google account with your own photo
- Google skillsWorkspace ( Google)Meet , Docs , Sheets , Slides , Forms ) and Moodle

**Technical support:**ASU (ev.shevtsov@knmu.edu.ua), Google (tehotdelknmu@gmail.com), Moodle (al.korol@knmu.edu.ua)

### **RECOMMENDED SOURCES**

1. Flis P.S. Orthodontics. - Vinnytsia: "New Book", 2019. - 312 p.
2. Children's dental prosthetics: textbook / P.S. Flis, S.I. Tril, V.P. Voznyuk; edited by Prof. P.S. Flis. — 2nd ed., corrected — K.: VSV “Medicina”, 2015. — 200 p.
- 3.M. Saadia , R. Valencia« Dentofacial Orthopedics in the Growing Child : Understanding Craniofacial Growthinthe Management of Malocclusions ", 2022 - 896 p.
  1. B. Melsen , C. Luzi« AdultOrthodontics 2nd Edition ", 2022 - 480 p.
- 4.Standard of medical care for bite anomalies (mesial occlusion, open bite, deep )  
[https://www.dec.gov.ua/wp-content/uploads/2025/03/dn\\_360\\_03032025\\_dod.pdf](https://www.dec.gov.ua/wp-content/uploads/2025/03/dn_360_03032025_dod.pdf)
- 5.Orthodontics and maxillofacial orthopedics evidence-based clinical guidelines  
[https://www.dec.gov.ua/wp-content/uploads/2025/03/2023\\_620\\_kn-ortodontiya.pdf](https://www.dec.gov.ua/wp-content/uploads/2025/03/2023_620_kn-ortodontiya.pdf)
- 6.Medical care standards distal occlusion [https://www.dec.gov.ua/wp-content/uploads/2023/04/smd\\_620\\_03042023.pdf](https://www.dec.gov.ua/wp-content/uploads/2023/04/smd_620_03042023.pdf)

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