

EDUCATIONAL COMPONENT SYLLABUS**PREVENTION OF DENTAL DISEASES**

Specialty: **221 "Dentistry"**

Educational and professional program: **Dentistry**

Component code in the educational program: **OK 25**

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

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

Year of study : **3**

Semester(s): **V (fall)**

Type of educational component: **mandatory**

Academic year: **2026-2027**

Amount: **4 ECTS credits – (12 0 hrs.)**

Educational classes: **lectures, practical classes , consultations**

Final control: **differential assessment**

Prerequisites : **anatomy and morphology**

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

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Educational component page in the KNMU Distance Learning System (Moodle):
<https://distance.knmu.edu.ua/course/view.php?id=2689>

DESCRIPTION OF THE EDUCATIONAL COMPONENT

"Prevention of Dental Diseases" is compiled in accordance with the Educational and Professional Program "Dentistry" and the Standard of Higher Education of Ukraine (hereinafter referred to as the Standard), second (master's) level, field of knowledge 22 "Health Care", specialty 221 "Dentistry".

OBJECTIVE :The purpose of studying the academic discipline "Prevention of Dental Diseases" 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 subdivisions (natural and scientific training), and is the basis for building the content of the educational component. The description of the goals is formulated through skills in the form of target tasks (actions). Based on the final goals, specific goals are formulated for each section or subdivision in the form of certain skills (actions), target tasks that ensure the achievement of the final goal of studying the academic discipline.

LEARNING OUTCOMES:

The ultimate goals of the academic discipline:

- o plan measures to maintain a healthy lifestyle and personal hygiene and implement them in healthcare practice;
- o demonstrate mastery of the moral and deontological principles of a medical specialist and the principles of professional subordination in the clinic of pediatric therapeutic dentistry;
- o identify risk factors for major dental diseases;
- o carry out epidemiological analysis of dental morbidity in the population;
- o justify hygienic measures for the prevention of dental diseases;
- o plan primary and secondary prevention of the most common dental diseases in children of different ages;
- o conduct primary and secondary prevention of the most common dental diseases in children of all ages;
- o conduct activities in the dispensary group of children with risk factors;
- o plan measures to prevent the spread of dental diseases, evaluate their effectiveness.

CONTENT OF THE EDUCATIONAL COMPONENT**List of topics for practical classes (60 hours) :**

1. Introduction to the course of prevention. General issues of prevention of dental diseases, concepts, goals, tasks, methods. Instruction on safety techniques when working in the dental clinic. Anatomical and physiological features of the structure of the oral cavity organs in the age aspect. Stages of development of the maxillofacial region, formation of teeth, mucous membrane (oral cavity and periodontal tissues).
2. Recording of dental formula: clinical, anatomical. Methods of dental examination. Examination algorithm. Practical familiarization of students with the examination method on each other. Practical mastering of caries indices KPV, kp , KPV+kp , KPVp , kpp ".
3. Oral hygiene indices (Green- Vermillion , Fedorova- Volodkina , Silnes-Lowe). Index assessment of the state of periodontal tissues (CPI, KPI, RMA, RI, Pisarev-Schiller test). Dental examination methodology according to WHO data. Dental status registration card . Filling out the card.
4. Final control 1.
5. Cariogenic situation in the oral cavity. Methods for its detection and elimination. Structure and biological properties of enamel and dentin. Maturation of enamel after tooth eruption. Resistance of tooth enamel to carious destruction. Influence on the processes of formation, mineralization and maturation of enamel for the purpose of caries prevention . Biological features of the dental pulp. Modern ideas about metabolic processes in enamel and dental pulp.
6. Composition and properties of oral fluid: its role in the processes of enamel maturation, demineralization , remineralization. Protective mechanisms of the oral cavity. Microflora of the oral cavity, its participation in the development of major dental diseases. Surface formations on the teeth. Classification of dental deposits.
7. Oral hygiene products, their composition and features of use, indications for use depending on dental status. Oral hygiene products, indications for use depending on dental status.
8. Methods of hygienic care of the oral cavity. Individual hygiene. Learning to brush teeth. Learning to brush teeth. Controlled brushing teeth. Professional oral hygiene: methods and equipment. Hygienic dental training and education of children in organized children's groups. Conducting a health lesson. Sanitary education is a component of primary prevention of dental diseases. Organization of dental sanitary education, its forms, methods, means.
9. Final control 2.
10. Prevention of caries and periodontal diseases. A comprehensive system for the prevention of dental diseases. Exogenous prevention of dental caries in the age aspect. Characteristics of means for local caries prevention , purpose and methods of their use. Practical mastery of various methods of conducting exogenous caries prevention in children. Exogenous prevention of dental caries in the age aspect. Characteristics of means for local caries prevention, purpose and methods of their use. Practical mastery of various methods of conducting exogenous caries prevention in children.
11. Sealing of dental fissures . Methods, indications for use. Means for sealing dental fissures and methods of their use. Practical mastering of the technique of sealing dental fissures . Endogenous prevention of dental caries in children. Interaction with a pediatrician. Planning, methods of implementation. Systemic administration of fluorides. Mechanism of caries-preventive action of fluorides. Systemic administration of macro- and microelements, vitamins depending on the age of the child. Control of the effectiveness of caries prevention .
12. Prevention of periodontal diseases in children. Main etiopathogenetic factors of periodontal diseases. Planning and methods of implementation. Oral hygiene as the basis of periodontal disease prevention. Appointment of means for hygienic care of the oral cavity, depending on the condition of periodontal tissues.
13. Comprehensive system of prevention of dental diseases in children. Main stages of implementation and organizational principles. Preparation, drawing up of the program. Criteria for assessing the effectiveness of the comprehensive prevention system program. Medical examination of children at the dentist as the main method of implementing primary prevention. Principles, organizational forms, stages of medical examination. Methodology for forming dental medical groups.

List of lecture topics (10 hours):

1. Modern principles of organization and methods of medical and preventive care for children. Development of temporary and permanent teeth. Factors influencing the formation and mineralization of hard tissues. Development of temporary and permanent teeth. Factors influencing the formation and mineralization of hard tissues.
2. Homeostasis of the tooth after eruption. Resistance of tooth enamel to carious damage. Influence on the processes of formation, mineralization and maturation of enamel for the purpose of caries prevention.
3. Cariesogenic factors in the oral cavity. Methods for their detection and elimination. The role of oral microflora and protective factors in the development of caries and periodontal diseases.
4. Endogenous and exogenous prevention of dental caries in children. Indications, means, mechanism of action, method of application.
5. Prevention of periodontal diseases in children. Methods of hygienic care of the oral cavity. Controlled brushing of teeth. Professional oral hygiene.

List of topics for student independent work (50 hours)

1. Kuzmina E.M. Oral Hygiene Index , modified Rustogi Index .
2. Modern devices for professional oral hygiene PROPHY – MAX, AIR – MAX VOOSTER, Mini-Piezon , Cavitron , AerFlow C1 and others.
3. Modern materials for sealing fissures of permanent teeth in children (sealants , glass ionomers , compomers , liquid composites, ormocers).
4. New methods and techniques for exogenous prevention of dental caries.

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

Teaching methods: performing exercises and practical work, solving situational problems and cases.

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).

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

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

Final control. The condition for admission to the exam is to score 70 points on the CIS. The passing score is from 50 to 80 points.

Grade for the discipline (OD) . $OD = ZND + IZ + \text{diff.zalik}$.

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).

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 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).

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).

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. Kaskova L. F., Vashchenko I. Yu., Bereghna O. E. Propaedeutics of children therapeutic dentistry. Kyiv, Magnoliya , 2024y. - 200p.
2. Kaskova L. F., Yanko N. V. Preclinical manual of paediatric therapeutic dentistry. Kyiv , Magnoliya, 2025y. - 130p.
3. Nazaryan R. S., Fomenko Yu. V., Shcheblykina N. A., Kolesova T. O. Diseases of the periodontium and oral mucosa in childhood. Methodological guidelines for students, subordinators of the dental faculty. KhNMU, Kharkiv, 2021.- 120p.
4. Kaskova L. F., Vashchenko I. Yu., Bereghna O. E. Propaedeutics of children therapeutic dentistry. Kyiv, Magnoliya , 2024y. - 200p.
5. Kaskova L. F., Yanko N. V. Preclinical manual of paediatric therapeutic dentistry. Kyiv, Magnoliya, 2026y. - 130p.
6. Kaskova L. F. "Prevention of Dental Diseases", Kyiv, Magnoliya , 2025y., 360p.
7. Kaskova L. F., Vashchenko I. Yu., "Dental diseases prevention.", Kyiv, Magnoliya, 2025y., 250p.

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