

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

SYLLABUS
EDUCATIONAL DISCIPLINE

«Prevention of dental diseases»

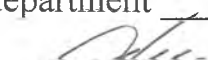
LEVEL OF HIGHER EDUCATION The second (master's) level

DEGREE OF HIGHER EDUCATION Master

FIELD OF KNOWLEDGE 22 Healthcare

SPECIALTY 221 Dentistry

COURSE 3

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 2020

1. General information	
Subject	Prevention of dental diseases
Lector	Acting Head of the Department, Doctor of Medical Sciences, Professor, Kuts P.V. Bida A.V.
Teacher's e-mail	forum-for-me@bigmir.net
Discipline format	Normative discipline.
The volume of the discipline	120 hours, 4 ECTS
Link to the distance learning site	maem.kiev.ua
Consultations	Web conferences in various programs (Zoom, Skype, Myit, Jitsy, Teams, Viber, Facebook, Cisco Webs). Exchange tasks via e-mail, Wandrive
2. Annotation to the course	
<p>The subject of study of the discipline is "Prevention of dental diseases", which is carried out in the third year of study.</p> <p>Dental disease prevention is a discipline that allows students to master certain skills of preventive examinations and epidemiological dental examinations, identification and elimination of risk factors for dental diseases, organization and implementation of preventive measures in children of different ages at the individual, group levels, and methods of dental education and motivation of the population to maintain dental health. The knowledge and skills acquired in this way will be used in practice.</p> <p>The peculiarity of teaching the prevention of dental diseases is that it is from this subject begins to get acquainted with the clinical work of a pediatric dentist, while prevention combines theoretical and clinical disciplines.</p>	
3. Purpose and objectives of the course	
<p>.1. The purpose of teaching the discipline "Dental Disease Prevention" is to apply preventive measures aimed at maintaining a high level of dental health and disease prevention.</p> <p>1.2. The main tasks of studying the discipline "Prevention of dental diseases" are:</p> <ul style="list-style-type: none"> -Demonstrate mastery of moral and deontological principles of a medical specialist and the principles of professional subordination in the clinic of pediatric therapeutic dentistry: <ul style="list-style-type: none"> • recognize the moral, ethical and professional rules of the pediatric dentist; • understand the moral and deontological principles of a medical specialist and the rules of professional subordination in the pediatric dentistry clinic; • master the skills of communication with colleagues, child patients, their parents and relatives, taking into account their psychological state; • learn to promote a healthy psychological microclimate in the team; learn the legal norms of the relationship pediatric dentist → patient (child). -Perform an epidemiological analysis of dental morbidity. -Substantiate hygienic measures for the prevention of dental diseases. -Planning primary and secondary prevention of the most common dental diseases in children of different ages. -Perform primary and secondary prevention of the most common dental diseases in children of different ages. -Conduct activities in the dispensary group of children with risk factors. -Planning measures to prevent the spread of dental diseases, evaluate their effectiveness. <p>4. Learning outcomes (competencies)</p>	
4. Competencies and learning outcomes	
Learning outcomes	Teaching methods
Have modern methods of prevention of diseases of the oral cavity	Lectures, practices, oral interviews, tests, dialogue with applicants for higher education, creative work with the

	creation of multimedia presentations and their presentation, independent work with literary sources		
5. Organization of course training			
<i>The volume of the course</i>			
Type of lesson	Total amount of hours		
Lectures	10		
Practical classes	60		
Independent work	50		
<i>Course signs</i>			
Semester 5-6	Specialty <u>221 Dentistry</u>	Course (year of study) 3	Normative discipline
<i>Course thematics</i>			
THEMATIC PLAN OF LECTURES in the discipline of prevention of dental diseases. For 3rd year students of the 5th semester			
№	Topic name	Number of hours	
1	Modern principles of organization and methods of treatment and prevention of children. The historical role of domestic scientists and organizers. Epidemiology of major dental diseases in children. Epidemiological research in dentistry, methods and accounting forms.	2	
2	Development of temporary and permanent teeth. Factors influencing the formation and mineralization of hard tissues. Cariogenic factors in the oral cavity. Ways to detect and eliminate them. The role of oral microflora and protective factors in the development of caries and periodontal disease.	2	
3	Tooth homeostasis after eruption. Resistance of tooth enamel to carious damage. Influence on the processes of formation, mineralization and maturation of enamel in order to prevent caries. Prevention of periodontal disease in children.	2	
	Total hours	6	
Thematic plan of lectures in the discipline of prevention of dental diseases. For 3rd year students of the 6th semester			
№	Topic name	Number of hours	

1	Endogenous prevention of dental caries in children. Indications, means, mechanism of action, method of application Exogenous prevention of dental caries in children. Indications, means, mechanism of action. Methods of application. Sealing of tooth fissures in children.	2
2	Sanitary education and hygienic training - preparation of primary prevention of dental diseases.	2
	Total hours	4

THEMATIC PLAN OF PRACTICAL CLASSES

On the prevention of dental diseases
for 3rd year students of the 5th semester

№	Topic name	Number of hours
1	Control of the initial level of knowledge. Methods of dental examination. Practical mastering of the technique of dental examination and identification of risk factors for dental diseases.	3
2	Index assessment of the hygienic condition of the oral cavity. Determination of indices of oral hygiene (Green-Vermilion, Fedorov-Volodkina, Silness-Low).	3
3	Index assessment of the condition of the hard tissues of the teeth. Practical mastering of CPV (caries) indices, CPV + CP, CP of teeth, CP of surfaces.	3
4	Index assessment of periodontal tissues. Practical mastering of periodontal indices (CPI, PMA, SBI, loss of attachment).	3
5	Organization and methods of hygienic education and upbringing in organized children's groups among children of different ages. Standard method of brushing teeth, methods of instruction and quality control of cleaning.	3
6	Practical mastering of methods of hygienic training and education in the conditions of children's preschool institution.	3
7	Cariogenic situation in the oral cavity. Characteristics of the main risk factors for caries. Practical mastering of methods for determining the main risk factors for caries.	3
8	Credit	3
	Total	24

THEMATIC PLAN OF PRACTICAL CLASSES

On the prevention of dental diseases
for 3rd year students of the 6th semester

№	Topic name	Number of hours
1.	Hygienic products for the oral cavity, their composition and properties, indications for use. Methods of hygienic care of the oral cavity.	3
2.	The choice of hygiene products for the oral cavity depending on age and dental status.	3

3.	Endogenous prevention of dental caries in children with the use of fluoride, calcium, vitamins and trace elements. Planning, methods, efficiency control.	3.
4.	Planning, methods, control of the effectiveness of exogenous prevention of dental caries in children with the use of fluoride and calcium. Means. The mechanism of their action.	3
5.	Planning, methods, control of the effectiveness of exogenous prevention of dental caries in children with the use of calcium supplements. Means. The mechanism of their action.	3
6.	Sealing of fissures. Means. Methods of implementation, efficiency control.	3
7.	Individual prevention of periodontal diseases, professional teeth cleaning. Scaling	3
8.	Individual prevention of periodontal diseases, professional teeth cleaning. Powder jet methods.	3
9.	Individual prevention of periodontal diseases, Practical mastering of methods and means of individual prevention of periodontal diseases.	3
10.	Individual assessment of risk factors for major dental diseases and planning of preventive measures.	3
11.	Practical mastering of the method of planning and conducting individual prevention of dental caries and gingivitis in children.	3
12.	Credit	3
	Total	36 hours

Thematic plan of independent extracurricular work of students
in the discipline of prevention of dental diseases
3rd year, 5th semester

№	Topic name	Number of hours
3		hours
1.	Preparation for practical, seminar classes (theoretical, development of practical skills, abilities)	10
2	* Independent study of topics that are not included in the plan of classes	
	1. Index of oral hygiene Kuzmina EM, modified index Rustogi.	1
	Modern means and devices for detecting risk factors for dental diseases.	1

3.	* Individual research independent work, topics: 4. Prevalence and intensity of carious lesions in groups of children of the educational institution. Study of the type of microcrystallization of oral fluid in students of the group. Prevalence and intensity of periodontal diseases, taking into account the age of the child in preschool educational institutions and schools. Conduct a survey of a group of children of the educational institution according to the WHO method with filling in the WHO map. Conduct a survey of oral hygiene in a group of children of the educational institution according to the WHO method with filling in the WHO map. Conduct an examination of oral hygiene in a group of children of the educational institution.	10
4.	Preparation for credit	8
Total		30

3rd year, 6th semester

№	Topic name	Number of hours
1.	Preparation for practical, seminar classes (theoretical, development of practical skills, abilities), topic numbers:	3
2	* Independent study of topics that are not included in the plan of classrooms, topics:1 -4* Independent study of topics that are not included in	3
	Modern devices for professional oral hygiene PROPHY - MAX, AIR - MAX BOOCCTEP, Mini-Piezon, Cavitron, AerFlow C1 та інших.	1
	Modern materials for sealing fissures of permanent teeth in children (sealants, glass ionomers, compomers, liquid composites, ormokers).	1
	New methods and techniques of exogenous prevention of dental caries.	1
3.	* Individual research independent work, topics: 1. The effectiveness of sealing tooth fissures with various sealants. 2. Determining the effectiveness of preventive measures after a course of exogenous and endogenous prophylaxis with calcium and fluoride. 3. Development of schemes for the prevention of dental diseases depending on the fluoride content in drinking water.	10
4.	Preparation for credit	4
Total		20

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	72
4,58	110	4,04	97	3,49	84	<3	Not enough
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**.*

	<p>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.</p> <p>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.</p> <p>Evaluation of final control.</p> <p>The maximum number of points that a student can score during the exam is 80 points.</p> <p>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).</p> <p>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 (Table1) and for the final control (diff.credit, exam) (Table 3).</p> <p>Table 3. Scale of assessment of differentiated (exam) credit:</p> <table border="1"> <thead> <tr> <th>Traditional scale</th> <th>Points</th> </tr> </thead> <tbody> <tr> <td>«5»</td> <td>70-80</td> </tr> <tr> <td>«4»</td> <td>60-69</td> </tr> <tr> <td>«3»</td> <td>50-59</td> </tr> </tbody> </table>	Traditional scale	Points	«5»	70-80	«4»	60-69	«3»	50-59
Traditional scale	Points								
«5»	70-80								
«4»	60-69								
«3»	50-59								
Requirements for written work	The final written work is performed in the form of a test.								
Practical classes	Classroom work								
<i>The 1st semester</i>									
Classroom work - score from 2 to 5 for each topic.									
<p>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.</p>									
Amount: minimum $72 + 50 = 122$, maximum $120 + 80 = 200$									
<i>The 2nd semester</i>									
Classroom work - score from 2 to 5 for each topic.									
<p>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.</p>									
Amount: minimum $72 + 50 = 122$, maximum $120 + 80 = 200$									
<p>The list of theoretical questions to prepare students for the exam.</p> <ol style="list-style-type: none"> 1. Prevention of dental diseases: definition, purpose, objectives, methods, determining economic efficiency. 2. Anatomical and physiological features of the structure of the oral cavity in the age aspect. 3. Development of the maxillofacial area, teeth, oral mucosa and periodontium. 4. Periods of development of temporary and permanent teeth. Influence of the general condition body for tooth development. 5. Signs of physiological teething in children. Bookmark terms, 									

mineralization, eruption of temporary teeth.

6. Terms of formation and resorption of roots of temporary teeth. Types and types resorption of the roots of temporary teeth.

7. Terms of bookmarking, mineralization, eruption and root formation permanent teeth.

8. Factors of embryonic and post-embryonic periods of development that affect the bookmark and mineralization of teeth.

9. The role of heredity and environmental factors in the development of caries and non-carious lesions of the teeth.

10. Algorithm for examination of a dental patient.

11. Dental formula: definition and purpose. Recording of clinical (by digital and ambiguous systems) and anatomical dental formula.

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12. Anatomical and topographic features of temporary and permanent teeth in children. Differences between temporary and permanent teeth.

13. Methods of dental examination by the WHO. WHO map, her characteristic. Evaluation of results.

14. Classification of dental plaque. Pelliculum, soft plaque, plaque. Their role in the pathogenesis of caries and periodontal disease.

15. Dental deposits. Their role in the pathogenesis of dental caries and periodontal disease.

16. Hygienic indices. Assessment of the hygienic condition of the oral cavity by Fedorov Volodkina, Green Vermilion, Silnes Lowe.

17. Methods of brushing teeth. Controlled brushing in organized children's groups.

18. Oral hygiene items. Classification. Indications for use.

19. Means of hygienic care of the oral cavity. Classification, physicochemical properties. Indications for use.

20. The choice of means and items of oral hygiene depending on dental status.

21. Professional oral hygiene: methods and equipment.

22. Hygienic training and education. Organization. Methods of conducting.

23. Tooth enamel. Histological structure, chemical composition, physical properties. "Maturation" of enamel after eruption of a tooth.

24. Immature enamel as a possible cariogenic factor. Methods and tools preventive effect.

25. Structure and biological properties of dentin.

26. Homeostasis of tooth hard tissues after eruption. Mechanisms of regulation.

27. Biological properties of tooth pulp. Modern ideas about metabolic processes in tooth enamel and pulp.

28. Saliva. Its composition, properties, role in the "maturation" of the enamel and in the maintenance homeostasis of hard tissues of teeth.

29. Microflora of the oral cavity. Its physiological significance, influence on development caries and periodontal disease. Methods and means of preventing it pathological effects.

30. Epidemiology of major dental diseases. Epidemiological examination in dentistry. Methods, accounting forms.

31. Prevalence and intensity of dental caries in children. Influence of climatic, geographical, socio-economic, environmental factors on the prevalence and intensity of dental caries in children.

32. Caries indices.

33. Determination of enamel acid resistance (TER-test, Koshre-test, CRT-test).

34. Cariogenic situation in the oral cavity. Factors leading to it

- development, their detection and elimination.
35. Carbohydrates in the pathogenesis of caries. Mechanism of action. Methods of prevention.
 36. Scientific substantiation of primary prevention of dental caries.
 37. Protective mechanisms of the oral cavity. Their role in the prevention of dental caries, periodontal disease.
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38. Periodontium, definition, structure. General and local etiological factors periodontal disease.
 39. Index assessment of periodontal tissues (SRITN, KPI, RMA, PI, test Pisarev-Schiller).
 40. Sanitary education in the system of complex dental prevention diseases. The main forms of sanitary and educational work with different population contingents.
 41. Fluoride, the effect of fluoride deficiency and excess in drinking water on development pathology of the hard tissues of the teeth and periodontal tissues.
 42. Components of the preparatory period in the organization of primary caries prevention. Their characteristics.
 43. Methods and means of exogenous prevention of dental caries in children, purpose, methods of application.
 44. The value of calcium, phosphorus and fluorine in the system of exogenous prevention caries. Preparations of calcium, phosphorus and fluorine, the mechanism of their action.
 45. Methods and means of endogenous caries prevention during bookmarking and tooth formation (in pregnant and lactating women, infants).
 46. Exogenous caries prevention with fluoride drugs. Methods of conducting, performance evaluation. Mechanism of action.
 47. Sealing of fissures as a method of prevention of dental caries, indications, methods.
 48. Sealants: classification, composition, properties.
 49. Types and methods of endogenous pr

The list of practical skills for final module control

1. Removal of dental layers.
2. Determination of acid resistance of tooth enamel (TER, KOSHRE, CR-test).
3. Sealing of fissures.
4. Diagnostic use of dyes.
5. Deep fluoridation of hard tissues of temporary teeth.
6. Carrying out of professional hygiene of an oral cavity.
7. Coating of teeth with therapeutic and prophylactic varnishes, gels, desensitizers.

Circumstance of admission to the final control	<ol style="list-style-type: none"> 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.
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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. Comprehensive Preventive Dentistry by Hardy Limeback. - WileyBlackwell, 2016. - 404 p.
2. Harris N.O., Garcia-Godoy F., Nielsen N.K. Primary Preventive Dentistry. Pearson education , 2013. - 528 p.
3. Nelson SJ, Ash MMJ. Wheeler's Dental Anatomy, physiology and occlusion: 9th Revised edition. - Philadelphia: Elsevier, 2009. - 368 p.
4. Understanding Dental Caries: From Pathogenesis to Prevention and Therapy by Michel Goldberg. - Springer International Publishing, 2016. - 249 p.
5. Textbook of Preventive and Community Dentistry by Hiremath S.S. Elsevier India, 2011- 582 p.
6. Kaskova L.F. A prevention of dental diseases (workbook of tests for 3 course students) I L.F. Kaskova, S.c. Novikova, N.M. Anoprieva - Poltava,, 2016. _ 125 p.

2. Additional:

- MedWedi.ru – портал безкоштовної медичної літератури
- Dic.academic.ru – словники і енциклопедії
 - Mediclub (medical information portal)
 - <http://www.Swissimplant.ru/glossary.php>
 - www.wikident.ru/index.php
 - www.eurolab.ua/encyclopedia
 - MedUniver.com
 - Medical.diss.com
 - <http://nashol.com/2011041354397/propedevtika-stomatologicheskikh-zabolevanii-skorikova-l-a-volkov-v-a-bajenova-n-p.html>
 - <http://www.booksmed.com/stomatologiya/2393-propedevtika-stomatologicheskikh-zabolevaniy-skorikova.html>
 - http://dental-ss.org.ua/load/kniga_stomatologia/terapevticheskaja/8.
 - <http://www.stomatkniga.ru/index.php?start=48>.
 - http://stomatbook.blogspot.com/p/blog-page_14.html.
 - <http://www.mosdental.ru/Pages/Page28.1.html>.

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