

Odessa National Medical University
Faculty of Dentistry
Department of Orthodontics

Syllabus course

Orthodontics

Amount	300 hours \ 10 credits
Semester, year of study	V, VI, VII, VII, IX, X semesters. 3, 4, 5 years of study
Days, time, place	According to the schedule
Lecturer	Head of the Department Gorokhivsky Volodymyr Nestorovych, prof., Doctor of Medicine Associate Professor Suslova Oksana Viktorivna, Ph.D. Associate Professor Reizvykh Olga Eduardivna, Doctor of Medicine Associate Professor Denga Anastasia Eduardivna, Doctor of Medicine Assistant Kovalchuk Victoria Viktorivna, Ph.D. Assistant Kordonets Olena Leonidivna Assistant Stetsenko Dmytro Viktorovych Assistant Al-Serarate Mohammed Karim Assistant Karman Anastasia Arkadyevna Assistant Zheliznyak Natalia Anatoliyivna Assistant Kostenko Olga Viktorivna
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Workplace	University Dental Clinic ONMedU, department №1, Mechnikova st., 2B
Consultations	Thursday from 15:00 to 18:00, Saturday 9:00 to 15:00 each week

COMMUNICATIONS

Communication with students is carried out according to the schedule in the classroom. In the case of distance learning, communications can take place online according to the schedule on the Microsoft Teams platform, in some cases with prior notice - through ZOOM and in Viber-groups.

COURSE ANNOTATION

The purpose of the discipline is the methods of examination and diagnosis of patients with dental anomalies and deformities, the basic principles and methods of treatment, as well as the impact of orthodontic equipment on periodontal tissues and temporomandibular joint.

The main tasks of studying the discipline "Orthodontics" are mastering the skills:

- to examine orthodontic patients
- analyze the results of examination of a patient with dental anomalies and deformities;
- substantiate and formulate a preliminary diagnosis;
- substantiate and formulate a syndromic orthodontic diagnosis;
- to carry out differential diagnostics in orthodontics;
- identify the leading symptoms and syndromes in orthodontics;
- to demonstrate mastery of moral and deontological principles of a medical specialist and the principles of professional subordination at orthodontic reception;
- to carry out primary and secondary prevention of dental anomalies and deformations.

Course details:

"Orthodontics" as a discipline:

- Based on knowledge obtained in general biological (human anatomy, histology, embryology and cytology, medical biology, medical chemistry, biological and bioorganic chemistry, medical physics) general clinical (propaedeutics of internal medicine, general surgery, otolaryngology), dental departments (prevention of dental diseases, pediatric therapeutic dentistry, therapeutic dentistry, surgical and orthopedic dentistry, propaedeutics of orthopedic dentistry).

- Integrates teaching with these disciplines.
- Forms the ability to apply the acquired knowledge of orthodontics in the process of further training and professional activities.

Expected results:

As a result of studying the discipline, students must:

Know:

- growth and formation of jaw bones in the age aspect;
- the concept of the norm in orthodontics;
- clinical methods of examination of children with dental anomalies and deformities;
- anthropometric survey methods;
- methods of research of speech, respiratory, masticatory function and swallowing function;
- X-ray examination methods;
- methods of teleradiography;
- basic principles and methods of treatment of patients with dental anomalies and deformities.

Be able:

- analyze the results of examination of a patient with dental anomalies and deformities;
- to carry out preventive measures in a group with risk factors;
- identify the leading syndromes and symptoms in the orthodontic clinic;
- detect congenital and acquired defects of the maxillofacial area;
- to demonstrate mastery of moral and deontological principles of a medical specialist and the principles of professional subordination at orthodontic reception;
- substantiate and formulate a preliminary clinical diagnosis of dental anomalies and deformities;
- substantiate and formulate a syndrome orthodontic diagnosis;
- to carry out differential diagnosis of diseases in orthodontics;
- to carry out differential diagnosis of somatic diseases that require special tactics of patient management in childhood;
- to conduct examination of orthodontic patients;
- to carry out primary and secondary prevention of dental and maxillofacial anomalies and deformations.

COURSE DESCRIPTION:

Forms and methods of teaching:

The course will be presented in the form of lectures (30 hours) and practical classes (150 hours), organization of independent work of students (120 hours).

Teaching takes place in the form of lectures, Power Point demonstrations and explanations, conversations, analysis of new information. During practical classes the theoretical interrogation, the decision of test tasks, situational tasks is carried out. It is planned to hold consultations according to the schedule.

Course content:

3 COURSE

Topic№1: Stages of development of the dental-maxillary apparatus: intrauterine, postnatal. Anatomical and physiological features of the oral cavity and temporomandibular joint of the newborn.

Topic№2: Growth and formation of jaw bones in the age aspect. Features of development of masticatory muscles at children. Morpho-functional characteristics of temporary, mixed and permanent occlusion.

Topic№3: The concept of norm in orthodontics. Orthognathic occlusion, its characteristics. Keys of occlusion according to E. Engle and Andrews. Physiological and pathological types of bites. Periods of formation of bite height. The value of Tsilinsky's symptom in the process of forming a permanent bite. Final planes by L.J. Boume and A. Schwarz.

Topic№4: Clinical methods of examination of children with dental anomalies and deformities.

Topic№5: Anthropometric methods of examination of orthodontic patients.

Topic№6: Methods of research of speech and respiratory function. Methods of research of masticatory function and swallowing.

Topic№7: Photometry in orthodontics.

Topic№8: X-ray examination methods. Methods of teleradiography (direct and lateral).

Topic 9: Etiology and pathogenesis of dental and facial anomalies and deformities.

Topic 10: Classifications of maxillofacial anomalies and deformities.

Topic 11: Methods of treatment of orthodontic patients. Principles of organization of orthodontic care.

Topic 12: Application of facial and masticatory muscle gymnastics for prevention and treatment of dental anomalies and deformities.

Topic№13: Apparatus method of treatment. Classifications of orthodontic equipment.

Topic 14: Theories of periodontal tissue reconstruction (Flurence, Kingsley-Walkhof and Oppenheim). Modern theories of periodontal tissue reconstruction under the influence of orthodontic equipment.

Features of the reconstruction of the temporomandibular joint during orthodontic treatment. Forces according to A.M. Schwartz.

Topic№15: Surgical methods of treatment of orthodontic patients. Physiotherapeutic methods of treatment of orthodontic patients.

4 COURSE

Topic №1: Etiology, pathogenesis, clinic, diagnosis, treatment and prevention of dental anomalies (color, structure of hard tissues, shape, size), anomalies in the number of teeth (adentia, overcomplete teeth). Features of orthopedic treatment for multiple adentia. Prospects for implantation in adentia

Topic №2: Etiology, pathogenesis, clinic, diagnosis, treatment and prevention of teething disorders. Clinical forms of dental retention. Types of tooth retention, features and prognosis of their orthodontic treatment

Topic №3 Etiology, pathogenesis, clinic, diagnosis, treatment and prevention of dental abnormalities. Features of treatment of dystopia of canines and turns of teeth around an axis.

Topic №4 Etiology, pathogenesis, clinic, diagnosis of dentition anomalies.

Topic №5 Prevention and comprehensive treatment of dentition anomalies in the period of temporary, variable and permanent occlusion

Topic №6 Etiology, pathogenesis and prevention of distal occlusion. Clinic and diagnosis of distal occlusion

Topic №7 Comprehensive treatment of distal occlusion in children during temporary, variable and permanent occlusion and in adults

Topic №8 Etiology, pathogenesis and prevention of mesial occlusion. Clinic and diagnosis of mesial occlusion

Topic №9 Comprehensive treatment of mesial occlusion in children during temporary, variable and permanent occlusion and in adults

Topic №10 Etiology, pathogenesis and prevention of deep occlusion. Clinic and diagnosis of deep occlusion

Topic №11 Comprehensive treatment of deep occlusion in children during temporary, variable and permanent occlusion and in adults

Topic №12: Etiology, pathogenesis and prevention of open bite. Clinic and diagnosis of open occlusion

Topic №13: Prevention and comprehensive treatment of open occlusion in children during temporary, variable and permanent occlusion and in adults

Topic №14: Etiology, pathogenesis and prevention of cross-bite. Clinic and diagnosis of cross-bite

Topic №15: Comprehensive treatment of cross-bite in children during temporary, variable and permanent bite and in adults

5 COURSE

Topic №1. Causes of defects of teeth and dentitions in children, their prevalence among children. Targeted preventive measures. Clinical and biological substantiation of children's dental prosthesis.

Topic №2. Designs of dentures in children to restore the anatomical shape of teeth.

Defects of dentitions at children and their replacement by fixed designs of dentures.

Topic №3. Partial removable dentures in children. Complete removable dentures in children.

Features of orthodontic treatment of children with complicated defects of the dentition.

Topic №4. Traumatic injuries of teeth and jaws in children. Clinic and treatment of dental dislocations in children.

Topic №5. Clinic and treatment of dental fractures.

Topic №6. Etiology, pathogenesis, diagnosis and prevention of congenital facial defects. Morphological and functional disorders of the dental apparatus and the body as a whole. Classification of congenital nonunions of the tooth-maxillofacial area.

Topic №7. Orthopedic treatment of congenital malformations of the hard and soft palate. Comprehensive step-by-step treatment of children with nonunion of the upper lip, alveolar process and palate. The role of orthodontic treatment in the rehabilitation of children with congenital malformations.

Topic №8. Fixed and removable orthodontic appliances.

Topic №9. Morphological and functional age features of development and formation of the child's dental apparatus and their clinical evaluation. Changes in the dental apparatus in endocrine pathology.

Topic №10. Methods of diagnosis of dental anomalies.

Topic №11. Physiological and biomorphological changes of the dental apparatus under the influence of orthodontic equipment.

Topic №12. Features of local and general disorders of the body with dental anomalies.

Topic №13. Planning orthodontic treatment.

List of recommended literature:

1. Фліс П.С. Ортодонтія. Вінниця: «Нова книга», 2019. 308 с.
2. Фліс П.С., Леоненко Г.П., Філоненко В.В., Дорошенко Н.М. Під ред. Фліса П.С. «Orthodontics. Dentognathic Anomalies and Deformations». «Медицина», Київ 2015. 176 с.
3. Фліс П.С., Власенко А.З., Чупіна А.О. Технологія виготовлення ортодонтичних та ортопедичних конструкцій у дитячому віці». Київ: «Медицина», 2013. 256 с.
4. Сулова О. В., Стеценко Д. В., Кордонец Е. Л. Желизняк Н. А. Биометрические методы исследования в ортодонтии (учебно-методическое пособие). Одесса: Одесский национальный медицинский университет, 2018. 37 с.
5. Митчелл Л. Основы ортодонтии. 2017. 376 с.
6. Фліс П.С., Тріль С.І., Вознюк В.П. «Дитяче зубне протезування». Київ: «Медицина», 2011. 200 с.
7. Стефан Вільямс. Короткий посібник з телентгенографії. Під ред. проф. П.С. Фліса. Львів, 2006.
8. Куроедова В.Д., Ждан В.Н., Галич Л.Б. и др. Атлас ортодонтических аппаратов. Полтава: «Дивосвіт», 2011. 156 с.

EVALUATION

Methods of current control

Current control is carried out on the basis of daily control of theoretical knowledge, practical skills in accordance with the specific objectives of each topic by oral examination, test computer control using a database of test and situational tasks in each practical lesson.

Forms and methods of final control

The form of final control is a differential test at the end of the 3rd year and an exam at the end of the 4th, 5th year. At the exam, students take written test tasks and oral answers to theoretical questions, situational tasks.

Independent work of students

Students' independent work is regulated by the working curriculum and is performed by students independently outside the classroom. The following types of independent work of students are possible: preparation for practical classes and study of topics that are considered only in terms of independent student work, search and study of additional literature, writing essays, reports for presentations in practical classes, filling an album for independent work.

Evaluation criteria

The results of students' academic performance are presented in the form of assessment on the national scale, 200-point and ECTS scale and have standardized

generalized criteria for assessing knowledge:

national scale:

- the grade "excellent" is given to the student who systematically worked during a semester, showed during examination various and deep knowledge of a program material, is able to successfully carry out tasks which are provided by the program, has mastered the maintenance of the basic and additional literature, has understood interrelation of separate sections of discipline. importance for the future profession, showed creative abilities in understanding and using educational material, showed the ability to independently update and replenish knowledge; level of competence - high (creative);

- a grade of "good" is given to a student who has shown full knowledge of the curriculum, successfully completes the tasks provided by the program, mastered the basic literature recommended by the program, showed a sufficient level of knowledge of the discipline and is able to independently update and update during further study and professional activity; level of competence - sufficient (constructive-variable);

- the grade "satisfactory" is given to the student who has shown knowledge of the basic educational program material in the volume necessary for the further training and the subsequent work on a profession, copes with performance of the tasks provided by the program, has made separate mistakes in answers on examination and at performance of examination tasks, but has the necessary knowledge to overcome mistakes under the guidance of a researcher; level of competence - average (reproductive);

- the grade "unsatisfactory" is given to the student who did not show sufficient knowledge of the basic educational and program material, made fundamental mistakes in performance of the tasks provided by the program, cannot use the knowledge at the further training without the teacher's help, failed to master skills of independent work; level of competence - low (receptive-productive).

The final control in the form of tests is evaluated on a two-point scale:

- the grade "credited" is given to a student who has completed the curriculum of the discipline, has no academic debt; level of competence - high (creative);

- the grade "not credited" is given to a student who has not fulfilled the curriculum of the discipline, has an academic debt (average score below 3.0 and / or absences); level of competence - low (receptive-productive).

The multi-point scale characterizes the actual success of each student in mastering the discipline. Conversion of the traditional grade from the discipline to 200-point is performed by the information and computer center of the university program

"Contingent" according to the formula:

average grade point average (current / discipline) x 40

national assessment	mark
«5»	185-200
«4»	151-184
«3»	120-150

The ECTS rating scale evaluates the achievements of students in the discipline who study in one course of one specialty, in accordance with the points obtained by them, by ranking, namely:

Mark ECTS	Statistical indicator
«A»	best 10 % students
«B»	next 25 % students
«C»	next 30 % students
«D»	next 25 % students
«E»	last 10 % students

The ECTS scale establishes the student's belonging to the group of the best or worst among the reference group of classmates (faculty, specialty), ie his rating. When converting from a multi-point scale, as a rule, the limits of grades "A", "B", "C", "D",

"E" do not coincide with the limits of grades "5", "4", "3" on the traditional scale. A grade of "A" on the ECTS scale cannot be equal to a grade of "excellent", and a grade of "B" - a grade of "good" and so on.

Students who receive grades "Fx" and "F" ("2") are not included in the list of ranked students. Such students automatically receive a score of "E" after re-assembly.

The grade "Fx" is given to students who have scored the minimum number of points for the current educational activity, but who have not been credited with the final control. Grade "F" is given to students who have attended all classes in the discipline, but did not score a grade point average (3.00) for current educational activities and are not admitted to the final control.

COURSE POLICY

The student must acquire knowledge, perform all types of educational tasks, pass all types of educational control, attend all types and forms of classes provided for in the curriculum, avoiding omissions and delays.

Deadline and recompilation policy.

The student completes the missed practical lesson by interviewing the regular teacher (twice a week on Thursday and Saturday).

Academic Integrity Policy

Adherence to academic integrity by students involves independent performance of educational tasks, tasks of current and final control of learning outcomes.

Unacceptable in the educational activities of participants in the educational process is the use of family or work ties to obtain a positive and higher assessment in the implementation of any form of control of learning outcomes, the use of prohibited aids or technical means (cheat sheets, headphones, telephones, smartphones, etc.); passing of procedures of control of results of training by fictitious persons.

For violation of academic integrity, the applicant may be held subject to the following academic liability:

- reduction of assessment (exam, test, etc.);
- re-assessment (exam, test, etc.);

- appointment of additional control measures (additional individual tasks, tests, etc.);
- re-passing the relevant educational component of the educational program;
- deductions from the university.

Attendance and lateness policy.

Absence of a student at lectures or practical classes is noted in the journal of visits in the form of a mark "nb". The student must work off the practical classes for 2 weeks.

Mobile devices

The use of a smartphone, tablet or other device is allowed with the permission of the teacher.

Behavior in the audience. Work in the team (student group, staff of the department, employees of the clinical base of the department) is provided. The communication environment is friendly, creative, open to constructive criticism.

