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**Federal State Autonomous Educational Institution of Higher Education
PEOPLES' FRIENDSHIP UNIVERSITY OF RUSSIA
NAMED AFTER PATRICE LUMUMBA
RUDN University**

Institute of Medicine

educational division (faculty/institute/academy) as higher education programme developer

COURSE SYLLABUS

Orthodontics and pediatric prosthodontics

course title

Recommended by the Didactic Council for the Education Field of:

31.05.03 Dentistry

field of studies / speciality code and title

**The course instruction is implemented within the professional education
programme of higher education:**

Dentistry

higher education programme profile/specialisation title

2024-2025

1. COURSE GOAL(s)

The goal of the course "Orthodontics and pediatric prosthetics" is to prepare of a dentists who has systemic knowledge of the basics and latest achievements of orthodontics to use that knowledge gained in practical and scientific activities.

Tasks:

- to acquaint the student with the epidemiology, etiology of dentofacial anomalies and deformities;
- to acquaint the student with the development, growth and formation of the jaws and face in general;
- to acquaint the student with the methods of clinical and radiological examination of the dentoalveolar system, classifications of dentoalveolar anomalies;
- to acquaint the student with the methods of preventing the formation of dental anomalies, congenital and hereditary diseases;
- to acquaint the student with the methods of treatment of dentoalveolar anomalies and deformities in various periods of growth and development, as well as in adult patients
- consider the use of various designs of orthodontic appliances.

2. REQUIREMENTS FOR LEARNING OUTCOMES

Mastering the course (module) "Orthodontics and pediatric prosthodontics" is aimed at the development of the following competences /competences in part: GC-1; GPC-1, GPC-2, GPC-4, GPC-5, GPC-9; PC-1, PC-2, PC-5.

Table 2.1. List of competences that students acquire through the course study

Competence code	Competence descriptor	Competence formation indicators (within this course)
GC-1.	Being able to implement critical analysis of problem situations based on systems approach, develop an action strategy.	GC-1.1. Analysing the problem situation as a system identifying its components and links between them.
GPC-1.	Being able to implement moral standards and legal regulations, ethical and deontological principals in professional activity	GPC-1.1. Observing bases of medical ethics and deontology; legal bases in healthcare; legal aspects of medical practice. GPC-1.3. Being experienced in solving standard professional tasks based on the ethical standards and deontological principles when interacting with colleagues and patients (their legal representatives); being aware of legal aspects of medical practice.
GPC-2.	Being able to monitor the effectiveness of preventive measures, healthy lifestyle formation and sanitary	GPC-2.1. Analysing the causes of professional errors, therapeutic failures and conflict situations. GPC-2.2. Providing scientific arguments for and implementing

	and hygienic education of the population	<p>recommendations aimed at improving the medical and legal training of dentists, preventing professional errors, adverse outcomes and conflict situations.</p> <p>GPC-2.3. Assessing the effectiveness of preventive measures aimed at preventing professional errors, adverse outcomes and conflict situations in dentistry.</p>
GPC-4.	Being able to monitor the effectiveness of preventive measures, healthy lifestyle formation and sanitary and hygienic education of the population	<p>GPC-4.1. Analysing the awareness of the population of a healthy lifestyle and medical literacy.</p> <p>GPC-4.3. Preparing an oral presentation or a printed text that promotes a healthy lifestyle and increases the literacy of the population concerning dental disease prevention.</p>
GPC-5.	Being able to examine patients to determine a diagnosis when solving professional tasks	<p>GPC-5.1. Gathering anamnesis by analysing the patient's complaints, making a physical examination at a dental appointment.</p> <p>GPC-5.2. Formulating a preliminary diagnosis and drawing up a plan for laboratory and instrumental examinations of a dental patient.</p> <p>GPC-5.3. Compiling medical documentation for a dental patient in accordance with regulatory requirements.</p> <p>GPC-5.4. Referring a patient to a laboratory examination in case there are medical indications in accordance with the current procedures for the provision of medical care, clinical guidelines (treatment protocols) on the provision of medical care taking into account the standards of dental care.</p> <p>GPC-5.5. Referring a patient to an instrumental examination in case there are medical indications in accordance with the current procedures for the provision of medical care, clinical guidelines (treatment protocols) on the provision of dental care taking into account the standards.</p> <p>GPC-5.6. Referring a patient for a consultation with medical specialists in case there are medical indications in accordance with the current procedures for the provision of medical care, clinical guidelines (treatment protocols)</p>

		<p>on the provision of dental care taking into account the standards.</p> <p>GPC-5.8. Conducting differential diagnosis with other diseases/conditions, including the urgent ones.</p> <p>GPC-5.9. Making a diagnosis based on the current international statistical classification of diseases and health problems.</p>
GPC-6.	Being able to prescribe non-drug and drug treatment, monitor its efficacy and safety when solving professional tasks	<p>GPC-6.1. Developing a plan for dental disease treatment taking into account the diagnosis, age and clinical picture in accordance with the current procedures for the provision of medical care, clinical guidelines (treatment protocols) on the provision of medical care taking into account the medical care standards.</p> <p>GPC-6.2. Selecting medical products (including dental materials) for drawing up a comprehensive plan for dental disease treatment. Following up the treatment of a patient.</p> <p>GPC-6.3. Assessing the possible side effects of taking medicinal drugs.</p> <p>GPC-6.4. Providing medical care to a dental patient in emergency or urgent forms.</p> <p>GPC-6.5. Organizing the prevention and treatment of complications, side effects, undesirable reactions, including the unforeseen ones, which can arise from diagnostic or medicinal manipulations, use of drugs and (or) medical devices, non-drug treatment at a dental appointment.</p> <p>GPC-6.9. Evaluating the efficacy and safety of using medicinal drugs, medical devices and other methods of treatment at a dental appointment.</p>
GPC-9.	Being able to assess morpho-functional, physiological conditions and pathological processes in the human body to solve professional tasks	<p>GPC-9.1. Being able to use the algorithm of clinical, laboratory and functional diagnosis in dealing with professional tasks.</p> <p>GPC-9.2. Evaluating the results of clinical, laboratory and functional diagnosis in dealing with professional tasks.</p> <p>GPC-9.3. Determining morpho-functional, physiological states and pathological processes of the human body.</p>

<p>PC-1.</p>	<p>Being able to make an examination of a patient in order to determine a diagnosis.</p>	<p>PC-1.1. Making an initial examination and/or reexamination of a patient in order to make a preliminary diagnosis.</p>
		<p>PC-1.2. Receiving information from patients (their relatives/legal representatives); conducting a questionnaire survey of patients regarding their general health status; identifying concomitant diseases in order to make a preliminary diagnosis.</p>
		<p>PC-1.3. Detecting if patients have dentoalveolar, facial anomalies, deformities and prerequisites for their development, defects in the crowns of teeth and dentition on the basis of the patient examination; laboratory, instrumental, and additional examinations in order to make a preliminary/final diagnosis.</p>
		<p>PC-1.5. Making a preliminary/final diagnosis based on the patient examination; laboratory and instrumental examinations.</p>
		<p>PC-1.6. Making a final diagnosis based on additional examinations of patients.</p>
<p>PC-2.</p>	<p>Being able to prescribe, monitor the efficacy and safety of non-drug and drug treatment</p>	<p>PC-2.1. Organizing the provision of emergency and urgent medical care for acute dental diseases, conditions, exacerbation of chronic diseases, which pose a threat to the patient's life, or without obvious signs of a threat to the patient's life.</p>
		<p>PC-2.2. Selecting drugs and medical devices (including dental materials) for dental disease treatment assessing the possible side effects of taking medicinal drugs.</p>
		<p>PC-2.3. Consulting patients on methods for treating dental diseases drawing up a comprehensive treatment plan which justifies the most appropriate tactics and assesses possible complications caused by using this technique.</p>
		<p>PC-2.4. Selecting the type of local anesthesia/anesthesia and assessing the possible complications caused by using it.</p>
		<p>PC-2.5. Conducting a specialized appointment for adults and/or children, monitoring the course of treatment of caries, non-carious dental diseases,</p>

		<p>pulpitis, periodontal disease, periodontitis, jawbone tissue, peripheral nervous system of the maxillofacial area, temporomandibular joint, salivary glands, diseases of the mucous tunic of mouth, with the exception of precancers, using modern treatment methods approved for use in medical practice.</p> <p>PC-2.8. Observing and treating diseases of the oral mucosa, lips, with the exception of a specialized appointment for the treatment of precancers of the oral mucosa and lips, and treatment of children with manifestations of viral, bacterial, allergic and other pediatric infections in the oral cavity.</p> <p>PC-2.9. Performing a phased sanitation of the oral cavity (excluding the sanitation of children under conditions of anesthesia).</p>
PC-5.	Being able to conduct health and hygiene education among the population and medical workers in order to form a healthy lifestyle	PC-5.1. Motivating patients (their relatives/legal representatives) to stick to a healthy lifestyle and give up bad habits.

3.COURSE IN HIGHER EDUCATION PROGRAMME STRUCTURE

The course refers to the core/variable/elective* component of (B1) block of the higher educational programme curriculum.

* - Underline whatever applicable.

Within the higher education programme students also master other (modules) and / or internships that contribute to the achievement of the expected learning outcomes as results of the course study.

Table 3.1. The list of the higher education programme components/disciplines that contribute to the achievement of the expected learning outcomes as the course study results

Competence code	Competence descriptor	Previous courses/modules*	Subsequent courses/modules*
GC-1	GC-1. Being able to implement critical analysis of problem situations based on systems approach, develop an action strategy.	<ul style="list-style-type: none"> • Medical elementology**; • Otorhinolaryngology; • Philosophy; • History of Medicine; • Pathophysiology - Pathophysiology of the head and neck; • Bioelements in medicine**; 	<ul style="list-style-type: none"> • Pediatric maxillofacial surgery • Maxillofacial prosthetics • Gnathology and functional diagnosis of the temporomandibular joint;

		<ul style="list-style-type: none"> • Psychology, pedagogy; • Immunology, clinical immunology; • Chemistry of biogenic elements**; • Obstetrics; • Prosthetics for complete absence of teeth; • Pediatric dentistry; • Dental modeling of teeth**; • Human Anatomy - Head and Neck Anatomy; • Dental prosthetics (simple prosthetics); • Dental prosthetics (complex prosthetics); • Mathematics; • Physics; 	
GPC-1	GPC-1. Being able to implement moral standards and legal regulations, ethical and deontological principals in professional activity	<ul style="list-style-type: none"> • Otorhinolaryngology; • Jurisprudence; • History of Medicine; • Pediatric dentistry; • Organization of general patient care; • Introduction to the specialty; • Introductory practice; • Practice in obtaining primary professional skills in positions of nursing staff (Assistant ward and procedural nurses); 	
GPC-2	GPC-2. Being able to analyse the results of their own professional activity to prevent professional errors	<ul style="list-style-type: none"> • Endodontics; • Periodontology; • Oral surgery; • Cariesology and diseases of hard dental tissues; • Local anesthesia and anesthesiology in dentistry; • Pediatric dentistry; 	<ul style="list-style-type: none"> • Maxillofacial and gnathic surgery; • Gerontostomatology and diseases of the oral mucosa; • Implantology and reconstructive surgery of the oral cavity;
GPC-4	GPC-4. Being able to monitor	<ul style="list-style-type: none"> • Prevention and community dentistry; 	

	the effectiveness of preventive measures, healthy lifestyle formation and sanitary and hygienic education of the population	<ul style="list-style-type: none"> • Hygiene; • Pediatric dentistry; 	
GPC-5	GPC-5. Being able to examine patients to determine a diagnosis when solving professional tasks	<ul style="list-style-type: none"> • Emergency conditions in outpatient dental practice; • Ophthalmology; • Endodontics; • Periodontology; • Oral surgery; • General surgery; • Surgical diseases; • Internal illnesses; • Pathological anatomy - Pathological anatomy of the head and neck; • Obstetrics; • Cariesology and diseases of hard dental tissues; • Local anesthesia and anesthesiology in dentistry; • Prosthetics for complete absence of teeth; • Pediatric dentistry; • Propaedeutics of dental diseases; • Dental prosthetics (simple prosthetics); • Dental prosthetics (complex prosthetics); 	<ul style="list-style-type: none"> • Maxillofacial and gnathic surgery; • Gerontostomatology and diseases of the oral mucosa; • Implantology and reconstructive surgery of the oral cavity; • Pediatric maxillofacial surgery; • Gnathology and functional diagnostics of the temporal mandibular joint; • Maxillofacial prosthetics;
GPC-6	GPC-6. Being able to prescribe non-drug and drug treatment, monitor its efficacy and safety when solving professional tasks	<ul style="list-style-type: none"> • Emergency conditions in outpatient dental practice; • Materials Science; • Endodontics; • Periodontology; • Oral surgery; • General surgery; 	<ul style="list-style-type: none"> • Maxillofacial and gnathic surgery; • Clinical pharmacology; • Gerontostomatology and diseases of the oral mucosa; • Implantology and reconstructive

		<ul style="list-style-type: none"> • Pharmacology; • Surgical diseases; • Internal illnesses; • Immunology, clinical immunology; • Obstetrics; • Cariesology and diseases of hard dental tissues; • Prosthetics for complete absence of teeth; • Pediatric dentistry; • Fundamentals of military training. • Life safety; • Dental prosthetics (simple prosthetics); • Dental prosthetics (complex prosthetics); 	<p>surgery of the oral cavity;</p> <ul style="list-style-type: none"> • Clinical dentistry; • Pediatric maxillofacial surgery; • Gnathology and functional diagnosis of the temporomandibular joint; • Maxillofacial prosthetics;
GPC-9	GPC-9. Being able to assess morpho-functional, physiological conditions and pathological processes in the human body to solve professional tasks	<ul style="list-style-type: none"> • Ophthalmology; • Oral surgery; • Biological chemistry - Biochemistry of the oral cavity; • Microbiology, virology - Microbiology of the oral cavity; • Pathophysiology - Pathophysiology of the head and neck; • Pathological anatomy - Pathological anatomy of the head and neck; • Radiation diagnostics; • Obstetrics; • Local anesthesia and anesthesiology in dentistry; • Pediatric dentistry; • Human Anatomy - Head and Neck Anatomy; • Histology, embryology, 	<ul style="list-style-type: none"> • Maxillofacial and gnathic surgery; • Forensic Medicine; • Implantology and reconstructive surgery of the oral cavity;

		<p>cytology - Histology of the oral cavity;</p> <ul style="list-style-type: none"> • Normal physiology, physiology of the maxillofacial area; • Topographic anatomy and operative surgery of the head and neck; 	
PC-1	PC-1. Being able to make an examination of a patient in order to determine a diagnosis.	<ul style="list-style-type: none"> • Ophthalmology; • Endodontics; • Periodontology; • Oral surgery; • Otorhinolaryngology; • Pathophysiology - Pathophysiology of the head and neck; • Pathological anatomy - Pathanatomy of the head and neck; • Immunology, clinical immunology; • Chemistry of biogenic elements**; • Radiation diagnostics; • Obstetrics; • Cariesology and diseases of hard dental tissues; • Local anesthesia and anesthesiology in dentistry; • Prosthetics with complete absence of lips; • Pediatric dentistry; • Propaedeutics of dental diseases; • Dental modeling of teeth**; • Three-dimensional computer modeling of teeth**; • Three-dimensional x-ray diagnostic methods in dentistry**; • Fundamentals of military training. 	<ul style="list-style-type: none"> • Maxillofacial and Gnathic Surgery; • Gerontostomatology and diseases of the oral mucosa; • Implantology and reconstructive surgery of the oral cavity; • Oncostomatology and radiation therapy; • Pediatric maxillofacial surgery; • Modern endodontics**; • Gnathology and functional diagnosis of the temporomandibular joint; • Maxillofacial prosthetics; • Aesthetic restoration of teeth**; • Assistant dentist (general practice), incl. research work;

		<ul style="list-style-type: none"> • Life safety; • Dental prosthetics (simple prosthetics); • Dental prosthetics (complex prosthetics); • Assistant dentist (hygienist); • Assistant dentist (surgeon); 	
PC-2	PC-2. Being able to prescribe, monitor the efficacy and safety of non-drug and drug treatment	<ul style="list-style-type: none"> • Endodontics; • Periodontology; • Innovative technologies in dentistry; • Medical elementology**; • Oral surgery; • Bioelements in medicine**; • Cariesology and diseases of hard dental tissues; • Local anesthesia and anesthesiology in dentistry; • Prosthetics for complete absence of teeth; • Pediatric dentistry; • Propaedeutics of dental diseases; • Organization of general patient care; • Infectious diseases, phthisiology; • Dental prosthetics (simple prosthetics); • Dental prosthetics (complex prosthetics); • Assistant dentist (surgeon); 	<ul style="list-style-type: none"> • Maxillofacial and Gnathic Surgery; • Clinical pharmacology; • Gerontostomatology and diseases of the oral mucosa; • Implantology and oral reconstructive surgery; • Clinical dentistry; • Pediatric maxillofacial surgery; • Modern endodontics**; • Gnathology and functional diagnosis of the temporomandibular joint; • Maxillofacial prosthetics; • Aesthetic restoration of teeth**; • Assistant dentist (general practice), incl. research work;
PC-5	PC-5. Being able to conduct health and hygiene education among the population and medical workers	<ul style="list-style-type: none"> • Oral surgery; • Prevention and community dentistry; • Public Health and Healthcare; • Hygiene; 	<ul style="list-style-type: none"> • Maxillofacial and gnathic surgery; • Implantology and reconstructive surgery of the oral cavity;

	in order to form a healthy lifestyle	<ul style="list-style-type: none"> • Psychology, pedagogy; • Local anesthesia and anesthesiology in dentistry; • Pediatric dentistry; 	<ul style="list-style-type: none"> • Dental assistant (general practice), incl. research work;
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* To be filled in according to the competence matrix of the higher education programme.

4. COURSE WORKLOAD AND ACADEMIC ACTIVITIES

The total workload of the course "Orthodontics and pediatric prosthetics" is 6 credits (216 academic hours).

Table 4.1. Types of academic activities during the periods of higher education programme mastering (**full-time training**)*

Type of academic activities	Total academic hours	Semesters/training modules			
		8	9		
Classroom learning, ac.h.	115	51	64		
including:					
Lectures (LC)	-	-	-		
Lab work (LW)	115	51	64		
Seminars (workshops/tutorials) (S)	-	-	-		
Self-studies	68	15	53		
Evaluation and assessment (exam/passing/failing grade)	33	6	27		
Course workload	ac.h.	216	72	144	
	credits	6	2	4	

* To be filled in regarding the higher education programme correspondence training mode.

5. COURSE CONTENTS

Table 5.1. Course contents and academic activities types

Course module title	Course module contents (topics)	Academic activities types
Section 1. Introduction to the specialty. Organization of orthodontic care. Age features of normal dentoalveolar system in children. Etiology, classification of dentoalveolar anomalies.	Topic 1.1. Introduction to the specialty. Organization of orthodontic care.	LW
	Topic 1.2. Age features of normal dentoalveolar system in children.	LW
	Topic 1.3. Etiology of dental anomalies.	LW
	Topic 1.4. Classification of dental anomalies.	LW
Section 2. Methods of examination and diagnostics in orthodontics.	Topic 2.1. Clinical examination method in orthodontics.	LW
	Topic 2.2. Anthropometric examination methods.	LW
	Topic 2.3. X-ray methods of examination.	LW
	Topic 2.4. Functional examination methods.	LW

Section 3. Methods of treatment in orthodontics. Prevention of dental anomalies.	Topic 3.1. Methods of treatment in orthodontics. Classification of devices.	LW
	Topic 3.2. Apparatuses of mechanical action.	LW
	Topic 3.3. Devices of functional-guiding and combined action. Trainers, activators and regulators of functions.	LW
Section 4. Modern technologies in orthodontics.	Topic 4.1. Modern orthodontic methods of treatment.	LW
	Topic 4.2. Bracket system.	LW
	Topic 4.3. Retention of the results of orthodontic treatment.	LW
Section 5. Dental anomalies. clinical forms. Diagnostics. Treatment.	Topic 5.1. Diagnosis and methods of treatment of anomalies of teeth, dental arches and jawbones.	LW
	Topic 5.2. Diagnosis and treatment of anomalies of occlusion in the sagittal plane.	LW
	Topic 5.3. Diagnosis and treatment of anomalies of occlusion in the vertical plane. Diagnosis and treatment of anomalies of occlusion in the transversal plane.	LW
Section 6. Dental prosthetics in children and adolescents.	Topic 6.1. Principles of treatment of dentoalveolar anomalies in congenital malformations of the maxillofacial region.	LW
	Topic 6.2. Dental prosthetics in children and adolescents.	LW

* - to be filled in only for **full**-time training; LC - lectures; LW - lab work; S - seminars.

6. CLASSROOM EQUIPMENT AND TECHNOLOGY SUPPORT REQUIREMENTS

Table 6.1. Classroom equipment and technology support requirements

Type of academic activities	Classroom equipment	Specialised educational / laboratory equipment, software, and materials for course study (if necessary)
Lecture	An auditorium for lecture-type classes, equipped with a set of specialized furniture; board (screen) and technical means of multimedia presentations. A variety of equipment is used for classroom activities: (visual aids, dental equipment and surgical instruments for extraction of teeth, phantoms, drugs, extracted teeth, x-rays, computer presentation, computers, projector, tables, dental equipment and surgical instruments for emergency care), (classrooms 245, 249)	Training room for conducting lecture and seminar classes, group and individual consultations, current control and intermediate certification. A set of specialized furniture; technical means: multimedia projector, laptop, WiFi available Internet access. Software: Microsoft products (OS, office suite, including MS Office / Office 365, Teams)
Lab-work	An auditorium for laboratory work, individual consultations, current control and intermediate certification, equipped with a set of specialized furniture and equipment.	Cabinets with appropriate equipment (Phantom Class), instruments, medical equipment, preventive measures;
Self-studies	Classroom for self-studies of students	

Type of academic activities	Classroom equipment	Specialised educational / laboratory equipment, software, and materials for course study (if necessary)
	(can be used for seminars and consultations), equipped with a set of specialized furniture and computers with access to the internet.	

7. RESOURCES RECOMMENDED FOR COURSE STUDY

Main readings:

- Orthodontics. Modern Methods of Diagnosing Dental Abnormalities, Dentition and Occlusion : Tutorial / L. S. Persin, A. B. Slabkovskaia, E. A. Karton [et al.]. – Moscow : Общество с ограниченной ответственностью Издательская группа "ГЭОТАР-Медиа", 2021. – 160 p. – ISBN 978-5-9704-6337-6. – DOI 10.33029/9704-6337-6-OMM-1-160. – EDN UIBWJX.
- Proffit W. R. et al. Contemporary Orthodontics, 6e: South Asia Edition-E-Book. – Elsevier India, 2019.
- Lobprise H. B. Occlusion and orthodontics //Wiggs's Veterinary Dentistry: Principles and Practice. – 2019. – С. 411-437.
- Dawson P. E. Functional occlusion: from TMJ to smile design. – Elsevier Health Sciences, 2006.

Additional readings:

- Wang N. et al. Recent advances in antibacterial coatings for orthodontic appliances //Frontiers in Bioengineering and Biotechnology. – 2023. – Т. 11. – С. 1093926.
- Kapos F. P. et al. Temporomandibular disorders: a review of current concepts in aetiology, diagnosis and management //Oral surgery. – 2020. – Т. 13. – №. 4. – С. 321-334.
- Lee G. H. et al. Protocols for orthodontic treatment of patients with temporomandibular joint disorders //American Journal of Orthodontics and Dentofacial Orthopedics. – 2021. – Т. 159. – №. 3. – С. 373-388.
- Minervini G. et al. Prevalence of temporomandibular disorders in children and adolescents evaluated with Diagnostic Criteria for Temporomandibular Disorders: A systematic review with meta-analysis //Journal of oral rehabilitation. – 2023. – Т. 50. – №. 6. – С. 522-530.
- Dowgierd K. et al. Protocol for multi-stage treatment of temporomandibular joint ankylosis in children and adolescents //Journal of Clinical Medicine. – 2022. – Т. 11. – №. 2. – С. 428.
- Vyas T. et al. Cleft of lip and palate: A review //Journal of family medicine and primary care. – 2020. – Т. 9. – №. 6. – С. 2621-2625.
- Pediatric dentistry at the present stage [text] / O.P. Maksimova // Clinical Dentistry. - 2012. - No. 3. - P.38-41.
- Guidelines for writing a term paper on the topic "History of the disease in the clinic of pediatric dentistry".: /T.F.Kosyreva, V.V.Safroshkina, E.S.Zaporozhskaya-Abramova. – M.: RUDN, 2012. -24p.
- Perez C. Temporomandibular disorders in children and adolescents. Gen Dent. 2018 Nov-Dec;66(6):51-55. PMID: 30444707

Information support of discipline

- a) Information technologies used in the educational process:

- Problem lectures
 - Role and business games
 - Computer presentations during theoretical and practical classes
- b) Software
- training computer programs prepared using the Microsoft Office application package
 - controlling computer programs prepared using the Microsoft Office application package
- c) Information reference systems
- selection of lecture material on CDs, video films
- d) databases, information and reference and search systems
- RUDN Electronic Library System - RUDN EBS <http://lib.rudn.ru/MegaPro/Web>
 - ELS "University Library Online" <http://www.biblioclub.ru>
 - EBS "Lan" <http://e.lanbook.com/>
 - scientific electronic library eLibrary
 - PubMed international citation database
 - publishing house of academic medical literature Elsevier
 - information and educational portal for doctors Univadis
 - electronic educational resource "Telecommunication educational and information system" of RUDN University
 - cathedral site

Internet sources

1. RUDN ELS and third-party ELS, to which university students have access on the basis of concluded agreements:

- RUDN Electronic Library System - RUDN EBS <http://lib.rudn.ru/>

2. *Databases and search engines:*

- electronic fund of legal and normative-technical documentation <http://docs.cntd.ru/>

- Yandex search engine <https://www.yandex.ru/>

- Google search engine <https://www.google.ru/>

- abstract database SCOPUS

- <http://www.elsevier.com/locate/elsevier>

*Training toolkit for self- studies to master the course *:*

1. The set of lectures on the course "Orthodontics and pediatric prosthodontics".
2. The laboratory workshop (if any) on the course "Orthodontics and pediatric prosthodontics".
3. The guidelines for writing a course paper / project (if any) on the course "Orthodontics and pediatric prosthodontics".
4.

* The training toolkit for self- studies to master the course is placed on the course page in the university telecommunication training and information system under the set procedure

8. ASSESSMENT TOOLKIT AND GRADING SYSTEM* FOR EVALUATION OF STUDENTS' COMPETENCES LEVEL UPON COURSE COMPLETION

The assessment toolkit and the grading system* to evaluate the competences formation level (UC-1; GPC-1, GPC-2, GPC-4, GPC-5, GPC-9; PC-1, PC-2, PC-5) upon the course study completion are specified in the Appendix to the course syllabus.

* The assessment toolkit and the grading system are formed on the basis of the requirements of the relevant local normative act of RUDN University (regulations / order).

DEVELOPERS:

Senior Lecturer, Department of
Pediatric Dentistry and
Orthodontics

position, educational department

signature

Im. Katbeh

name and surname

HEAD OF EDUCATIONAL DEPARTMENT:

Department of Pediatric
Dentistry and Orthodontics

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N.S. Tuturov

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**HEAD OF
HIGHER EDUCATION PROGRAMME:**

Head department, professor,
Department of propaedeutics of
dental diseases

position, educational department

signature

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name and surname