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

Institute of Medicine

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

COURSE SYLLABUS

Endodontics

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

1. COURSE GOAL(s)

The goal of the course «Endodontics» is to deepen students' knowledge in the etiology, pathogenesis, clinic, diagnosis and treatment of complicated caries treatment; to form the clinical thinking of the future specialist;

to compare the clinical manifestations of pulpitis and periodontitis with the data of the main and additional research methods; establish causal relationships between the manifestations of the disease and the patient's complaints; justify the diagnosis, draw up an adequate examination and treatment plan and implement it under the guidance of a teacher, using modern materials and technologies; be able to independently work with scientific, regulatory, reference literature, use the Internet.

2. REQUIREMENTS FOR LEARNING OUTCOMES

Mastering the course (module) «Endodontics» is aimed at the development of the following competences /competences in part: **General Professional Competences (GPC)- 2, 5, 6, Professional Competences (PC) – 1,2.**

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

Competence code	Competence descriptor	Competence formation indicators (within this course)
GC-2	Being able to analyze the results of their own professional activity to prevent professional errors	GPC-2.1. Analysing the causes of professional errors, therapeutic failures and conflict situations;
		GPC-2.2. Providing scientific arguments for and implementing recommendations aimed at improving the medical and legal training of dentists, preventing professional errors, adverse outcomes and conflict situations.
GPC-5	Being able to examine patients to determine a diagnosis when solving professional tasks	GPC-5.1. Gathering anamnesis by analysing the patient's complaints, making a physical examination at a dental appointment.
		GPC-5.2. Formulating a preliminary diagnosis and drawing up a plan for laboratory and instrumental examinations of a dental patient
		GPC-5.3. Compiling medical documentation for a dental patient in accordance with regulatory requirements
		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

Competence code	Competence descriptor	Competence formation indicators (within this course)
		<p>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-5.9. 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>
PC-1	Being able to make an examination of a patient in order to determine a diagnosis.	<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>
		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

Competence code	Competence descriptor	Competence formation indicators (within this course)
		obvious signs of a threat to the patient's life.
		PC-2.2. Selecting drugs and medical devices (including dental materials) for dental disease treatment assessing the possible side effects of taking medicinal drugs
		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.
		PC-2.4. Selecting the type of local anesthesia/anesthesia and assessing the possible complications caused by using it.

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.

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*
GPC – 2(2.1; 2.2),	Being able to analyze the results of their own professional activity to prevent professional errors	1 Propedeutics 2 Local anesthesia and anesthesiology in dentistry 3 Materials science 5 Cariology	1 Periodontics 2 Local anesthesia and anesthesiology in dentistry 3 Dental prosthetics (simple prosthetics) 4 Prosthetics in the absence of teeth 5 Oral surgery 6 Gerontostomatology and diseases of the oral mucosa 7 Maxillofacial and gnathic surgery 8 Complex dental prosthetics 9 Diseases of the head and neck 10 Implantology and oral reconstructive surgery

Competence code	Competence descriptor	Previous courses/modules*	Subsequent courses/modules*
GPC-5(5.1,5.2, 5.3, 5.4, 5.5,5.9),	Being able to examine patients to determine a diagnosis when solving professional tasks	1Propedeutics 2 Local anesthesia and anesthesiology in dentistry 3 Materials science 5Cariology	1 Periodontics 2Local anesthesia and anesthesiology in dentistry 3 Dental prosthetics (simple prosthetics) 4 Prosthetics in the absence of teeth 5 Oral surgery 6 Gerontostomatology and diseases of the oral mucosa 7 Maxillofacial and gnathic surgery 8 Complex dental prosthetics 9 Diseases of the head and neck 10 Implantology and oral reconstructive surgery
GPC –6 (6.1,6.2)	Being able to prescribe non-drug and drug treatment, monitor its efficacy and safety when solving professional tasks	1Propedeutics 2 Local anesthesia and anesthesiology in dentistry 3 Materials science 5Cariology	1 Periodontics 2Local anesthesia and anesthesiology in dentistry 3 Dental prosthetics (simple prosthetics) 4 Prosthetics in the absence of teeth 5 Oral surgery 6 Gerontostomatology and diseases of the oral mucosa 7 Maxillofacial and gnathic surgery 8 Complex dental prosthetics 9 Diseases of the head and neck 10 Implantology and oral reconstructive surgery
PC – 1(1.1,1.2, 1.3)		1. Prevention and communal dentistry 2. Propaedeutics 3. Local anesthesia and anesthesiology in dentistry 4. Material Science 5. Cariology	1 Periodontics 2 Local anesthesia and anesthesiology in dentistry 3 Dental prosthetics (simple prosthetics) 4 Prosthetics in the absence of teeth 5 Oral surgery 6 Gerontostomatology and diseases of the oral mucosa 7 Maxillofacial and gnathic surgery 8 Complex dental prosthetics 9 Diseases of the head and

Competence code	Competence descriptor	Previous courses/modules*	Subsequent courses/modules*
			neck 10 Implantology and oral reconstructive surgery
PC –2 (2.1,2.2, 2.4, 2.5)		1. Prevention and communal dentistry 2. Propaedeutics 3. Local anesthesia and anesthesiology in dentistry 4. Material Science 5. Cariology	1 Periodontics 2 Local anesthesia and anesthesiology in dentistry 3 Dental prosthetics (simple prosthetics) 4 Prosthetics in the absence of teeth 5 Oral surgery 6 Gerontostomatology and diseases of the oral mucosa 7 Maxillofacial and gnathic surgery 8 Complex dental prosthetics 9 Diseases of the head and neck 10 Implantology and oral reconstructive surgery

* 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 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		
		VI	VII	
<i>Contact academic hours including:</i>	123	72	51	
Lectures (LC)				
Lab work (LW)	123	72	51	
Seminars (workshops/tutorials) (S)				
<i>Self-studies</i>	93	50	43	
<i>Evaluation and assessment (exam/passing/failing grade)</i>				
Course workload	academic hours	216	122	94
	credits	6	3	3

* 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
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Course module title	Course module contents (topics)	Academic activities types
Module 1 Etiology, pathogenesis of dental pulp inflammation. Classification of pulp diseases.	Topic 1.1 Etiology, pathogenesis, clinical picture, diagnosis, differential diagnosis, treatment, prevention Etiology, pathogenesis of pulpitis. Pulpitis classification ICB-10.	LW,SS
Module 2 Acute pulpitis	Acute pulpitis. Clinic, diagnostics, differential diagnostics, treatment.	LW,SS
Module 3 Chronic pulpitis	Chronic periodontitis. Clinic, diagnosis, differential diagnosis, treatment of acute periodontitis.	LW,SS
Module 4 Methods of treatment of pulpitis.	Methods for treating pulpitis that preserve the viability of the pulp: biological method, vital amputation. Indications and contraindications for conducting. Methods for the treatment of pulpitis that do not preserve the viability of the pulp. Vital and devital extirpation of the pulp. Indications. Endodontic instrumentation. Root canal processing and filling methods.	LW,SS
Module 5 Etiology, pathogenesis apical periodontitis	Anatomical and physiological features of the periodontium. Etiology, pathogenesis of apical periodontitis. Classification of periodontitis ICD-10.	LW,SS
Module 6 Acute apical periodontitis.	Acute periodontitis. Clinic, diagnosis, differential diagnosis, treatment of acute periodontitis.	LW,SS
Module 7 Chronic apical periodontitis	Chronic periodontitis. Clinic, diagnosis, differential diagnosis, treatment of acute periodontitis.	LW,SS
Module 8 Methods of treatment of apical periodontitis.	Means and methods of endodontic treatment. Complications in endodontics. Odontogenic sepsis. Focal diseases.	LW,SS
Module 9 Conservative surgical methods in endodontics.	Conservative-surgical methods of treatment in endodontics: crown-radicular separation, hemisection, root amputation, root apex resection, tooth replantation.	LW,SS
Module 10 Methods of treating teeth with problematic canals.	Methods of treating teeth with problematic channels: depophoresis, apexphoresis.	LW,SS

Course module title	Course module contents (topics)	Academic activities types
Module 11 Dental focus of infection, focal diseases.	Dental focus of infection. Focal diseases. Clinical manifestations, diagnostics and methods of patient examination.	LW,SS
Module 12 Complications and errors in endodontics, bleaching of non-vital teeth.	Errors and complications in endodontics. Errors in the diagnosis of pulpitis and periodontitis. Errors and complications in the treatment of pulpitis and periodontitis. Methods for the prevention and elimination of errors and complications in endodontics. Whitening of non-vital teeth	LW,SS

* - 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	A lecture hall for lecture-type classes, equipped with a set of specialised furniture; board (screen) and technical means of multimedia presentations.	
Lab work	A classroom for laboratory work, individual consultations, current and mid-term assessment; equipped with a set of specialised furniture and machinery.	List of specialised laboratory equipment, machinery, stands, etc.
Seminar	A classroom for conducting seminars, group and individual consultations, current and mid-term assessment; equipped with a set of specialised furniture and technical means for multimedia presentations.	List of specialised equipment, stands, visual posters, etc.
Computer Lab	A classroom for conducting classes, group and individual consultations, current and mid-term assessment, equipped with personal computers (in the amount of ___ pcs), a board (screen) and technical means of multimedia presentations.	List of specialised software installed on computers for mastering the discipline
Self-studies	A classroom for independent work of students (can be used for seminars and consultations), equipped with a set of specialised furniture and computers with access to the electronic information and educational environment.	

* The premises for students' self-studies are subject to **MANDATORY** mention

7. RESOURCES RECOMMENDED FOR COURSE STUDY

Main readings:

1) Essentials of operative dentistry//Daurova, Makeeva, Khabadze et al. Москва GEOTAR MEDIA, 2019, 512 .

2) Tutorial Guide of Endodontics for Dental Students of Third Year of Education: textbook. allowance / F.Yu. Daurova, Z.S. Khabadze, A.V. Zoryan, M.K. Makeeva, L.A. Kozhevnikova, E.S. Kodzaeva, A.S. Markov. - Moscow: RUDN University, 2017. - 156 p.

Additional readings:

Internet sources

1. Electronic libraries (EL) of RUDN University and other institutions, to which university students have access on the basis of concluded agreements:

- RUDN Electronic Library System (RUDN ELS) <http://lib.rudn.ru/MegaPro/Web>
- EL "University Library Online" <http://www.biblioclub.ru>
- EL "Yurayt" <http://www.biblio-online.ru>
- EL "Student Consultant" www.studentlibrary.ru
- EL "Lan" <http://e.lanbook.com/>
- EL "Trinity Bridge"
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2. Databases and search engines:

- electronic foundation of legal and normative-technical documentation <http://docs.cntd.ru/>
- Yandex search engine [https:// www .yandex.ru/](https://www.yandex.ru/)
- Google search engine <https://www.google.ru/>
- Scopus abstract database <http://www.elsevierscience.ru/products/scopus/>

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

1. The set of lectures on the course "Endodontics"

* 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 (GPC- 2, 5, 6; PC – 1,2.) 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:

Head of Conservative Dentistry
Department, Associate Professor

Z.S. Khabadze

_____ position, department	_____ signature	_____ name and surname
Head of Educational Process of Conservative Dentistry Department, Associate Professor		I.V. Bagdasarova

_____ position, department	_____ signature	_____ name and surname
Associate Professor of Conservative Dentistry Department		Z.S. Khabadze

_____ position, department	_____ signature	_____ name and surname
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HEAD OF EDUCATIONAL DEPARTMENT: of Conservative Dentistry Department		Z.S. Khabadze
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_____ name of department	_____ signature	_____ name and surname
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HEAD OF HIGHER EDUCATION PROGRAMME: Deputy Director of MI for Academic Affairs		S.N. Razumova
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