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**Federal State Autonomous Educational Institution for Higher Education
Peoples' Friendship University of Russia
RUDN University**

Institute of Medicine

(Educational division)

COURSE SYLLABUS

PEDIATRICS

(Course name)

Recommended by the Didactic council for the Education field of:

31.05.01 General Medicine

(Education field (specialty) code and title)

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

31.05.01 General Medicine

(Higher education field (profile/specialisation) title)

2024

1. COURSE GOAL(s)

The goal of the course “Pediatrics” is to train the doctor with theoretical and practical knowledge, skills and abilities in the field of diagnostics, emergency care, treatment tactics, medical

examination and prevention of the most common diseases in children and adolescents, who is capable of and ready for independent professional activity.

The discipline “Pediatrics” is included in the specialty program “General Medicine” in the field 31.05.01 “General Medicine” and is studied in the 9th, 10th, and 11th semesters in the 5th and 6th years. The discipline is implemented by the Department of Pediatrics. The discipline consists of 4 sections and 31 topics and is aimed at studying and improving basic, fundamental medical knowledge in the field of pediatrics, which forms the professional competencies of a doctor capable of successfully carrying out professional tasks.

2. REQUIREMENTS OF COURSE LEARNING OUTCOMES

The course “Pediatrics” aims to developing the following competencies (parts of competences) in students:

Table 2.1. List of competences formed in students during course of study (learning outcomes)

Code	Competence	Competence Development Indicators
GPC-5	Able to assess morpho-functional, physiological conditions and pathological processes in the human body to perform professional tasks	GPC-5.3. Able to determine morpho-functional, physiological states and pathological processes of the human body based on knowledge about the structure of the human body, as well as normal and pathological functioning of organs and systems;
GPC-7	Able to prescribe treatment and monitor its efficacy and safety	GPC-7.1. Has mastered the methods of general clinical examination, interpretation of laboratory results, instrumental diagnostic methods. GPC-7.2. Has mastered the algorithm for making a preliminary diagnosis with the subsequent referral of the patient to the appropriate medical specialist. GPC-7.3 Capable of selecting medications for the diagnosis, treatment and prevention of diseases, assessing their effectiveness, safety and drug-drug interactions;
PC-1	Able to provide emergency or urgent medical care to a patient	PC-1.1. Able to assess the condition of a patient who needs emergency or urgent

		<p>medical care.</p> <p>PC-1.2. Able to recognize conditions that arise from sudden acute diseases, exacerbation of chronic diseases without obvious signs of a threat to the patient’s life, and which require emergency medical care.</p> <p>PC-1.3. Able to provide urgent medical care to patients with sudden acute diseases and conditions; exacerbation of chronic diseases without obvious signs of a threat to the patient’s life.</p> <p>PC-1.4. Able to recognize conditions which pose a threat to the patient’s life, including the state of clinical death – cessation of the vital bodily functions (blood circulation and/or respiration) – which require emergency medical care.</p> <p>PC-1.5. Able to provide emergency medical care to patients in conditions which pose a threat to the patient’s life, including clinical death – cessation of the vital bodily functions (blood circulation and/or respiration).</p> <p>PC-1.6. Able to use medications and medical devices when providing medical care in emergency or urgent situations.</p>
PC-2	Able to conduct examination of a patient in order to determine a diagnosis	<p>PC-2.1. Has mastered the skills to take complaints, history of the patient’s life and disease, as well as conduct a complete physical examination of the patient (inspection, palpation, percussion, auscultation).</p> <p>PC-2.2. Able to make a preliminary diagnosis and make up a plan of laboratory and instrumental examination of the patient.</p>

		<p>PC-2.3. Able to refer a patient for laboratory examination when 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 standards of medical care.</p> <p>PC-2.4. Able to refer a patient for instrumental examination when 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 medical care.</p> <p>PC-2.5. Able to refer a patient to consult with a medical specialist if there is a medical indication 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 medical care.</p> <p>PC-2.6. Able to refer a patient to receive specialized medical care in an inpatient setting or in a day hospital where 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 medical care.</p> <p>PC-2.7. . Able to carry out differential diagnosis with other diseases/conditions, including urgent ones, as well as to make a diagnosis taking into account the current international statistical</p>
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		classification of diseases and problems related to health (ICD).
PC-3	Able to prescribe treatment and monitor its efficacy and safety	<p>PC-3.1. Able to develop a treatment plan for a disease or condition 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 standards of medical care.</p> <p>PC-3.2. Able to prescribe drugs, medical devices and therapeutic nutrition taking into account the diagnosis, age and clinical picture of the disease, and 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 medical care.</p> <p>PC-3.3. Able to prescribe non-pharmacological treatment taking into account the diagnosis, age and clinical picture of the disease 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 medical care.</p> <p>PC-3.4. Able to assess the efficacy and safety of the use of drugs, medical devices, therapeutic nutrition and other treatment methods.</p> <p>PC-3.5. Able to provide palliative care in collaboration with medical specialists and other healthcare professionals.</p>

		<p>PC-3.6. Able to organize personalized treatment for a patient, including pregnant women, elderly and senile patients; assess the efficacy and safety of treatment.</p>
<p>PC-5</p>	<p>Able to carry out preventive measures and measures to promote a healthy lifestyle, as well as sanitation and hygiene education of the population and also monitor their effectiveness</p>	<p>PC-5.1. Able to organize and conduct medical examinations taking into account age, health status, profession in accordance with applicable legislative acts and other documents.</p> <p>PC-5.4. Able to carry out follow-up care of patients with diagnosed chronic non-communicable diseases.</p> <p>PC-5.5. Able to prescribe preventive measures to patients taking into account risk factors 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 standards of medical care.</p> <p>PC-5.6. Able to monitor observance of preventive measures.</p> <p>PC-5.7. Able to identify medical indications to introduce restrictive measures (quarantine) and indications for referral to a medical specialist in the event of infectious (parasitic) diseases.</p> <p>PC-5.8. Able to issue and send emergency notification to the territorial body of the Federal Service for Surveillance on Consumer Rights Protection and Human Wellbeing when an infectious or occupational disease is detected.</p> <p>PC-5.11. Able to assess the effectiveness of preventive patient care.</p>

PC-6	Able to keep medical records and organize the activities of the nursing staff and other health workers in his command.	PC-6.3. Able to maintain medical records, including in electronic form. PC-6.4. Able to monitor the performance of official duties by a district nurse and other health workers in his command.
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3. COURSE IN HIGHER EDUCATION PROGRAMME STRUCTURE

The course "Pediatrics" belongs to the part of the educational relations – block B1 of the Higher Education Programme.

Within the framework of the educational programme, students also study other courses and/or practicals that contribute to achieving the expected learning outcomes of "Pediatrics" course.

Table 3.1. List of Higher Education Programme disciplines that contribute to expected learning outcomes

Code	Title of competence	Previous disciplines	Subsequent disciplines/modules, practicals*
GPC-5	Able to assess morpho-functional, physiological conditions and pathological processes in the human body to perform professional tasks	Ophthalmology; Propaedeutics of internal diseases; Medical elementology; Obstetrics and gynecology; Biochemistry; Immunology; Otorhinolaryngology; General surgery; Pharmacology; Anatomy; Topographic anatomy and operative surgery; Histology, embryology, cytology; Normal physiology; Microbiology, virology; Pathophysiology, clinical pathophysiology; Radiation diagnostics; Bioorganic chemistry; Methods of cell biology and histology; Molecular genetic methods;	Maxillofacial Surgery; Sectional course; Phthisiology;

		Pathological anatomy, clinical pathological anatomy; Biology; Chemistry;	
GPC-7	Able to prescribe treatment and monitor its efficacy and safety	Ophthalmology; Propaedeutics of internal diseases; Otorhinolaryngology; General surgery; Pharmacology; Histology, embryology, cytology; Normal physiology;	Maxillofacial Surgery; Outpatient therapy;
PC-1	Able to provide emergency or urgent medical care to a patient	Ophthalmology; Propaedeutics of internal diseases; Obstetrics and gynecology; General surgery; Faculty Therapy; Faculty surgery; Neurology, medical genetics, neurosurgery; Emergency medicine in life-threatening conditions; Urology; Diagnostics practicals: assistant ward nurse; Practicals in emergency medical procedures (simulation center); practicals for obtaining primary professional skills and professional experience: procedural nurse assistant; Surgery practicals: surgeon's assistant, Obstetrics and gynecology practicals: gynecologist's assistant;	Emergency conditions; Disaster Medicine; Endocrinology; Outpatient therapy; Hospital surgery, pediatric surgery; Hospital therapy; Endoscopic urology; Allergology;
PC-2	Able to conduct examination of a patient in order to determine a diagnosis	<i>Medical enzymology**;</i> <i>Molecular genetics in practical biology and medicine**;</i> Ophthalmology; Propaedeutics of internal diseases; Medical elementology;	Telemedicine; Emergency conditions; Maxillofacial Surgery; Sectional course; Endocrinology; Phthisiology; Outpatient therapy; Hospital surgery, pediatric surgery;

		<p>Obstetrics and gynecology; Immunology; Otorhinolaryngology; General surgery; Faculty Therapy; Faculty Surgery; Microbiology, virology; Pathophysiology, clinical pathophysiology; Neurology, medical genetics, neurosurgery; Evidence-based medicine; Radiation diagnostics; Dermatovenerology; Molecular genetic methods; Pathological anatomy, clinical pathological anatomy; Urology; Surgery practicals: surgeon's assistant, Obstetrics and gynecology practicals: gynecologist's assistant</p>	<p>Reproductive health; Hospital therapy; Endoscopic urology; Allergology;</p>
PC-3	<p>Able to prescribe treatment and monitor its efficacy and safety</p>	<p><i>Introduction to Nutrition**;</i> <i>Ophthalmology;</i> <i>Obstetrics and gynecology;</i> <i>Otorhinolaryngology;</i> <i>Faculty Therapy;</i> <i>Pharmacology;</i> <i>Faculty Surgery;</i> <i>Fundamentals of Integrative Medicine**;</i> <i>Neurology, medical genetics, neurosurgery;</i> <i>Dermatovenerology;</i> <i>Basics of therapeutic nutrition;</i> <i>Clinical Trials**;</i> <i>Clinical research**;</i> <i>Urology;</i> <i>Surgery practicals: surgeon's assistant,</i> <i>Obstetrics and gynecology practicals: gynecologist's assistant</i></p>	<p>Telemedicine; <i>Outpatient cardiology**;</i> Maxillofacial Surgery; Endocrinology; Phthisiology; Outpatient therapy; Hospital surgery, pediatric surgery; Reproductive health; Hospital therapy; Endoscopic urology; Allergology;</p>

PC-6	Able to keep medical records and organize the activities of the nursing staff and other health workers in his command.	<p><i>Ophthalmology;</i> <i>Propaedeutics of internal diseases;</i> <i>Obstetrics and gynecology;</i> <i>Bioethics**;</i> <i>General surgery;</i> <i>Faculty Therapy;</i> <i>Faculty Surgery;</i> <i>Public health and health care, health economics;</i> <i>Radiation diagnostics;</i> <i>Biostatistics;</i> <i>Urology;</i> <i>Introductory practical to acquire primary professional skills: nursing care (simulation center);</i> <i>Introductory practical to acquire primary professional skills: nursing care;</i> <i>Internship to obtain primary professional skills: assistant to junior medical staff;</i> <i>Internship to gain primary professional skills and professional experience: procedural nursing assistant;</i> <i>Surgery practicals: surgeon's assistant,</i> <i>Obstetrics and gynecology practicals: gynecologist's assistant</i></p>	<p>Telemedicine; Outpatient therapy; Hospital surgery, pediatric surgery; Hospital therapy; Endoscopic urology; Allergology;</p>
PC-5	Able to carry out preventive measures and measures to promote a healthy lifestyle, as well as sanitation and hygiene education of the population and also monitor their effectiveness	<p><i>Introduction to Nutrition**;</i> <i>Ophthalmology;</i> <i>Propaedeutics of internal diseases;</i> <i>Organization of special care for patients;</i> <i>Obstetrics and gynecology;</i> <i>Epidemiology;</i> <i>Hygiene;</i> <i>Neurology, medical genetics, neurosurgery;</i> <i>Dermatovenerology;</i></p>	<p><i>Outpatient cardiology**;</i> Endocrinology; Phthisiology; Outpatient therapy; Reproductive health; Endoscopic urology;</p>

		<i>Fundamentals of psychophysiology**; Urology;</i>	
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* - created in accordance with the competence matrix and Higher Education programme

** - elective disciplines/practicals

4. COURSE WORKLOAD AND ACADEMIC ACTIVITIES

Total course workload of “Pediatrics” is equal to 9 credits.

Table 4.1. Types of academic activities during the period of the HE programme mastering for FULL-TIME studies

Type of learning activity	Total academic hours	Semester(s)			
		9	10	11	
Classroom learning, academic hours	199	68	80	51	
Lectures (L)	0	0	0	0	
Lab work (LW)	199	68	80	51	
Seminars (workshops/tutorials) (S)	0	0	0	0	
Self-study, academic hours	74	34	10	30	
Evaluation and assessment (exam and pass/fail grading with points)	51	6	18	27	
Total course workload	academic hours	324	108	108	108
	credits	9	3	3	3

5. COURSE CONTENTS

Table 5.1. Course content (modules) according to type of academic activity

Module	Course module names	Module content (topics)		Type of academic activity*
Module 1	Growth and development of children	1.1.	Periods of childhood. Physical development. Skin and subcutaneous fat: development, age-related features, methods of examination and semiotics of lesions.	LW
		1.2.	Development, age-related features, methods of examination and semiotics of lesions of the nervous and endocrine systems. Evaluation of neuropsychomotor development	LW
		1.3.	Nutrition and nutritional disorders in children.	LW
		1.4.	Feeding.	LW
Module 2	Propaedeutics of childhood diseases	2.1.	Musculoskeletal system: development, age-related features, methods of examination, and semiotics of disorders. Rickets, rickets-like diseases.	LW
		2.2	Development, age-related features, examination methods and semiotics of disorders of the GIT and urinary system.	LW
		2.3.	Development, age-related features, examination methods and semiotics of disorders of the blood, immune system and lymphatic system. Anemia.	LW
		2.4.	Development, age-related features, examination methods and semiotics of disorders of the respiratory system. Community-acquired pneumonia. Acute bronchiolitis	LW
		2.5.	Development, age-related features, examination methods and semiotics of disorders of the cardiovascular system. Heart failure.	LW
		2.6.	Congenital heart defects	LW
		2.7.	Myocardial diseases. Cardiomyopathies. Infectious endocarditis.	LW
		2.8	Allergic diseases	LW

Module	Course module names	Module content (topics)		Type of academic activity*
Module 3	Somatic childhood diseases	3.1.	The child with stridor.	LW
		3.2.	The child with chronic cough	LW
		3.3.	Acute rheumatic fever. Diseases of the joints.	LW
		3.4.	Diffuse connective tissue diseases	LW
		3.5.	Systemic vasculitis	LW
		3.6.	Diseases of the urinary system	LW
		3.7.	Gastrointestinal tract diseases	LW
		3.8.	Hemorrhagic diseases. Hemorrhagic disease of the newborn.	LW
		3.9.	Diabetes mellitus	LW
		3.10.	Endocrine diseases	LW
		3.11.	Antibacterial therapy in children	LW
Module 4	Pediatric infectious diseases	4.1	Exanthema: measles, rubella, parvovirus infection.	LW
		4.2	Enterovirus infections. Poliomyelitis	LW
		4.3	Mumps, diphtheria	LW
		4.4	Meningeal syndrome. Bacterial and viral meningitis. Meningococcal infection.	LW
		4.5	Streptococcal infections. Scarlet fever. Yersiniosis. Pseudotuberculosis. Multisystem inflammatory syndrome in children.	LW
		4.6	Herpes infections.	LW
		4.7	Acute intestinal infections. Hemolytic uremic syndrome	LW
		4.8	Vaccination of children	LW

* - created for **FULL-TIME** study only: L – lectures; LW – lab work; S – seminars/workshops

6. CLASSROOM EQUIPMENT AND TECHNOLOGY SUPPORT REQUIREMENTS

Table 6.1 Classroom Infrastructure and Technology Support Requirements

Type of academic activities	Classroom equipment	Specialized educational/laboratory equipment, software and materials for course study
Laboratory	A classroom for conducting seminar-type classes, group and individual consultations, continuous assessments and mid-term assessment, equipped with a set of specialized furniture and multimedia presentation equipment.	Set of specialized furniture; technical equipment: NEC VT59 multimedia projector, ASUS X50M and Dell Latitude D631 laptops, there is Internet access. Software: Microsoft products (OS, office application package, including MS Office / Office 365, Teams, Skype).
For self-studies	Classroom for students' independent work (can be used for seminars and consultations), equipped with a set of specialized furniture and computers with access to EIES.	

* - classroom for students' independent study **MUST** be indicated

7. RECOMMENDED SOURCES FOR COURSE STUDY

Main reading

1. Robert M. Kliegman, Brett J. Bordini, Heather Toth et al. Nelson Pediatric Symptom-Based Diagnosis: Common Diseases and their Mimics. Elsevier, 2022. ISBN 978-0-323-76174-1. DOI: <https://doi.org/10.1016/C2019-0-01335-0>
2. Sarah S. Long. Principles and Practice of Pediatric Infectious Diseases. Elsevier, 2022. ISBN 978-0-323-75608-2. DOI <https://doi.org/10.1016/C2019-0-00075-1>

Additional literature

1. Vito Pavone. Bone Development and Disease in Infants. Children, 2022. ISBN 978-3-0365-4045-0 URL: <https://www.mdpi.com/books/reprint/5473-bone-development-and-disease-in-infants>
2. Neonatal and Pediatric Cerebro-Cardiopulmonary Resuscitation / Michael Shoykhet [et al.]. 2018. 1 c. ISBN 9782889456598 URL: <https://www.frontiersin.org/research-topics/4942/neonatal-and-pediatric-cerebro-cardio-pulmonary-resuscitation-ccpr>
3. Wynn J.L., Bliss J.M.. The Neonatal Immune System: A Unique Host-Microbial Interface, 2018. 1 c. ISBN 9782889454037 URL: <https://www.frontiersin.org/research-topics/5017/the-neonatal-immune-system-a-unique-host-microbial-interface>
4. Lissauer Tom. Illustrated Textbook of Paediatrics / T. Lissauer, W. Carrol. - Fifth Edition - China : Elsevier, 2017. - 583 p.: il. - ISBN 978-0-7234-3871-7: 6113.30.
5. Soumen Khatua (Ed.), Natasha Pillay Smiley (Ed.). Update in Pediatric Neuro-Oncology, 2019. 1 c. ISBN 9783038975397 URL: <https://www.mdpi.com/books/pdfview/book/1112>.
6. Giovanni Biglino, Adelaide de Vecchi. Ventricular Mechanics in Congenital Heart Disease, 2017. 1 c. ISBN 9782889452644 URL: <http://journal.frontiersin.org/researchtopic/4933/ventricular-mechanics-in-congenital-heart-disease>
7. Tammy M. Brady, Ibrahim F. Shatat. Pediatric Hypertension: Update, 2018. 1 c. ISBN 9782889456543 URL: <https://www.frontiersin.org/research-topics/5269/pediatric-hypertension-update>
8. Stefan J. Friedrichsdorf (Ed.). Pediatric Palliative Care, 2019. 1 c. ISBN 9783038973508 URL: <https://www.mdpi.com/books/pdfview/book/1130>
9. Carlo Caffarelli, Luis Garcia-Marcos, Kostas N. Priftis. The Parallel March of Asthma and Allergy in Childhood: A Multi-Perspective Approach, 2018. 1 c. ISBN 9782889455294 URL: <https://www.frontiersin.org/research-topics/4997/the-parallel-march-of-asthma-and-allergy-in-childhood-a-multi-perspective-approach>
10. Frederick Jeffrey Kaskel, Agnieszka Swiatecka-Urban, Robert P. Woroniecki. Nephrotic Syndrome in Pediatric Patients, 2017. 1 c. ISBN 9782889452989 URL: <https://www.frontiersin.org/research-topics/3714/nephrotic-syndrome-in-pediatric-patients>

Internet-(based) sources

1. RUDN ELS and third-part ELS with contract-based access for RUDN students:
 - RUDN Electronic library system – RUDN ELS
<http://lib.rudn.ru/MegaPro/Web>
 - “University library online” ELS
<http://www.biblioclub.ru>
 - Urait ELS
<http://www.biblio-online.ru>
 - «Консультант студента» ELS
www.studentlibrary.ru
 - «Лань» ELS
<http://e.lanbook.com/>
 - «Троицкий мост» ELS
2. Databases and search engines:
 - electronic database of legal, regulatory and technical documentation
<http://docs.cntd.ru/>

- Yandex search engine
<https://www.yandex.ru/>
- Google search engine
<https://www.google.ru/>
- SCOPUS reference database
<http://www.elsevierscience.ru/products/scopus/>

Learning toolkits for students' self - studies in the mastery of the course/module:*

1. Course of video lectures and presentations on the discipline “Pediatrics”.
2. Methodological guidelines for the implementation and recording of testing and independent work on the discipline “Pediatrics”.

* - all learning toolkits for self- studies of students are on the course page in **RUDN LMS TUIS** in accordance with current procedures!

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

Assessment materials and grading system* for the evaluation of achieved competency levels (parts of competences) for the learning outcomes of the “Pediatrics” course are presented in the appendix to this Course syllabus.

* - assessment and grading systems are based on the corresponding local regulatory act of RUDN University

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