Ministry of Science and Higher Education of the Russian Federation
Federal State Autonomous Institution of Higher Education
“National Research Nuclear University “MEPhI”

INSTITUTE OF ENGINEERING PHYSICS FOR BIOMEDICINE

APPROVED НТС ИФИБ

Protocol No. 3.1

dated 30.08.2024

ACADEMIC COURSE OUTLINE

ДЕТСКИЕ БОЛЕЗНИ / PEDIATRICS

Educational program track (speciality) [1] 31.05.01 General Medicine

Semester	**Labour input, credits**	**Total course academic, hours**	**Lectures, hrs.**	**Practical sessions, hrs.**	**Laboratory sessions, hrs.**	**In the form of practical studies, hrs.**	**Independent studies, hrs.**	**Independent studies monitoring, hrs.**	**Course progress, Exam/Pass-fail exam/Term**
9	6	216	20	60	0		82	0	Ex
Total	6	216	20	60	0	60	82	0	

ABSTRACT

This course provides students with knowledge, skills, and abilities in the diagnosis, treatment, and prevention of childhood diseases. Students study the most common nosological forms of childhood diseases. The knowledge and skills they gain will enable them to effectively apply them in their professional work.

1. ACADEMIC COURSE GOALS AND OBJECTIVES

Course goal: To develop competencies in the diagnosis, treatment, and prevention of childhood diseases.

Objectives:

- To develop a system of knowledge about the etiology, epidemiology, pathogenesis, and clinical manifestations of the most common childhood diseases, as well as diagnostic, treatment, and prevention methods;
- To develop readiness to identify the main pathological conditions, symptoms, and syndromes, as well as nosological forms of pediatric diseases, and to formulate a preliminary diagnosis;
- To develop the skills and abilities to develop an examination and treatment plan for childhood diseases, and to interpret the results of additional studies in accordance with clinical guidelines for the purpose of establishing a diagnosis;
- To develop the skills and abilities to provide medical care in the event of pediatric emergencies, and to determine indications for hospitalization;
- To develop the skills and abilities to select rational drug, non-drug, and other treatments for childhood diseases, taking into account the severity of the disease and in accordance with clinical guidelines; to assess the effectiveness and safety of the prescribed treatment;
- To develop the skills and abilities to implement preventive measures aimed at preventing the development of diseases and injuries, complications, and relapses.
- -develop communication skills with children, their parents, and legal guardians, taking into account ethics and deontology, as well as interaction skills with colleagues;

-develop clinical thinking, the ability to work with scientific literature and apply pediatric regulatory documents in professional activities, and the ability to maintain medical records.

2. PLACE OF THE ACADEMIC COURSE IN THE MAIN HIGHER EDUCATION CURRICULUM

This course is offered as part of the core curriculum. It builds on the knowledge, skills, and abilities acquired through the study of such disciplines as normal and pathological anatomy, normal and pathological physiology, cytology and embryology, topographic anatomy and operative surgery, medical microbiology and virology, immunology, pharmacology, internal medicine, and radiation diagnostics.

The knowledge, skills and abilities acquired as a result of mastering the discipline are necessary for the subsequent successful mastery of other clinical disciplines and practices.

3. DEVELOPED COMPETENCIES AND INTENDED LEARNING OUTCOMES

Universal and/or general professional competencies:

Competency code and title	Code and title of competency-based rubrics
ОПК-6 [1] – Capable of organizing general nursing, providing primary medical care, ensuring the organization of work and making professional decisions in emergencies at the pre-hospital stage, in emergency situations, epidemics and in areas of mass destruction	З-ОПК-6 [1] – Know: - a set of measures for general nursing with diseases of various organs and systems; Signs of clinical and biological death; - indications for patient hospitalization for the most common diseases with typical progression. У-ОПК-6 [1] – Be able to: - organize care for patient when providing medical care in an outpatient setting; - determine the need for patient hospitalization; - ensure the organization of work in emergency situations, epidemics, and in mass casualty zones. В-ОПК-6 [1] – Possess skills in: - general care of a patient (general nursing); - providing first aid; - making medical decisions in emergencies at the prehospital stage, including in emergency situations, epidemics, and in mass casualty zones.
ОПК-7 [1] – Capable of prescribing treatment and monitoring its effectiveness and safety.	З-ОПК-7 [1] – Know: - pharmacological groups of medicinal drugs and their intended purposes; - mechanisms of action of pharmacological and non-pharmacological treatments, indications and contraindications for their use, side effects, and complications caused by their application; - methods for monitoring the effectiveness and safety of various treatment approaches. У-ОПК-7 [1] – Be able to: - make rational choices for pharmacological and non-pharmacological treatments based on clinical guidelines and in accordance with medical care standards; - develop a treatment plan for a disease or condition considering the diagnosis, age, disease course characteristics, and comorbidities, based on clinical guidelines and medical care standards; - prescribe medications, medical devices, and therapeutic nutrition considering the diagnosis, age, disease course characteristics, and comorbidities, based on clinical guidelines and medical care standards; - justify prescribed pharmacological and non-pharmacological treatments; - evaluate the effectiveness and safety of medications, medical devices, therapeutic nutrition, and other treatment methods. В-ОПК-7 [1] – Possess skills in: - administering medications through various routes of administration; - developing treatment plans for diseases or conditions considering diagnosis, age, disease course characteristics, and comorbidities; - assessing the effectiveness and safety of prescribed treatments.

Professional competencies in compliance with the goals and professional knowledge areas:

Professional activity goal	Professional activity knowledge area	Professional competency code and title; Based on the professional standard, experience analysis	Code and title of competency-based rubrics
medical			

Diagnostics of diseases and pathological conditions of the patients.	Individuals (patients); the population; the set of means and technologies aimed at creating conditions for preserving and strengthening the health of the adult population	ПК-3.2 [1] - Capable of conducting patient examinations to establish a diagnosis *The base:* Professional standard: 02.009	З-ПК-3.2[1] - Know: - clinical diagnosis establishment algorithm; - patient history-taking and physical examination methodology; - laboratory and instrumental research methods for health assessment to establish a diagnosis; - semiotics of diseases of different organs and systems; - structure, principles of the current International Statistical Classification of Diseases and Related Health Problems (hereinafter - ICD).; У-ПК-3.2[1] - Be able to: - conduct patient history-taking and physical examination; - interpret history, physical examination data, laboratory and instrumental results to recognize a condition or establish the presence/absence of a disease, establish a diagnosis; - distinguish and recognize in each specific case tissue damage, the reaction to it, and the form of adaptability; - develop a patient examination plan, justify the necessity and scope of laboratory and instrumental examination; - identify main pathological conditions, symptoms and syndromes, nosological forms in the patient according to the current ICD.; В-ПК-3.2[1] - Possess skills in: - patient history-taking and physical examination; Formulating a preliminary diagnosis; -

			developing a patient examination plan; Interpreting laboratory and instrumental results; - establishing a diagnosis considering the current ICD

4. PEDAGOGIC POTENTIAL OF THE COURSE

Pedagogic tracks/objectives	Pedagogic goals (code)
Professional education	Establishing conditions for: formation of responsibility for professional choice, professional development and professional decisions (B18)
Professional education	Establishing conditions for: formation of motivation to improve the quality of medical care to the population and the desire to follow the rules and norms of interaction between the doctor, colleagues and the patient, contributing to the creation of the most favorable environment for the patient's recovery (B34)

5. ACADEMIC COURSE STRUCTURE AND CONTENT

Academic course sections, their scope, terms of study and assessment:

No.	Academic course section name	Weeks	Lectures/ Practical (seminars)/ Laboratory sessions, hrs.	Compulsory current assessment (form*, week)	Maximum grade per section**	Section assessment (form*, week)	Competency-based rubrics
	9 Semester						
1	The First section	1-8	10/30/0	T-8 (25)	25	T-8	В-ОПК-6, З-ОПК-7, У-ОПК-7, В-ОПК-7, З-ПК-3.2, У-ПК-3.2, В-ПК-3.2
2	The Second section	9-16	10/30/0	T-15 (25)	25	T-16	В-ОПК-6, З-ОПК-7, У-ОПК-7, В-ОПК-7, З-ПК-3.2, У-ПК-3.2, В-ПК-3.2
	Totals for 9 Semester		20/60/0		50		
	Assessment events for				50	Ex	З-ОПК-6,

	9 Semester						У-ОПК-6, В-ОПК-6, З-ПК-3.2, У-ПК-3.2, В-ПК-3.2, З-ОПК-7, У-ОПК-7, В-ОПК-7

* – abbreviated name of assessment

** – 100 maximum points per semester including a pass/fail exam and (or) an exam

Abbreviated current assessment forms and section assessment

Abbreviation	**Full name**
T	Testing
Ex	Exam

SYLLABUS

Weeks	**Topics / Content**	**Lect., hrs.**	**Pr./sem., hrs.**	**Lab., hrs.**
	9 Semester	20	60	0
1-8	**The First section**	10	30	0
1 - 4	**Pediatrics as a science. Physical and neuropsychological development of children. Childhood infections.** Acute intestinal infections in children. Vaccination. Pediatrics. Childhood stages. Anatomical and physiological characteristics of child development. Methods for assessing the physical and neuropsychic development of young children. Childhood infections: measles, rubella, chickenpox, scarlet fever, whooping cough, mumps. Acute intestinal infections in children. Principles of diagnosis and treatment. Specific and nonspecific prevention of infectious diseases.	All		
		4	16	0
		Online		
		0	0	0
5 - 8	**Constitutional anomalies. Rickets. Anemia, thrombocytopenia, and childhood hematological malignancies. Rheumatic diseases and systemic connective tissue diseases.** The concept of human constitution and constitutional anomalies (diathesis). Clinical manifestations, prognosis, and prevention of diseases associated with diathesis. Classification, etiopathogenesis, and clinical manifestations of anemia in children. Hypoplastic anemia, neutropenia, and hemoblastoses. Diagnosis, treatment, and prevention methods. Hemorrhagic diathesis. Diffuse connective tissue diseases: diagnostic criteria and treatment principles.	All		
		6	14	0
		Online		
		0	0	0
9-16	**The Second section**	10	30	0
9 - 12	**Respiratory diseases in children. Allergic diseases in**	All		

	children. Cardiovascular diseases in children. Etiopathogenesis, clinical features, diagnosis, complications, and treatment principles. Chronic, congenital, and hereditary lung diseases in children. Clinical manifestations, treatment principles, and outcomes. Allergic diseases in children. Prevalence in childhood, factors contributing to their development, and classification. Features of pathogenesis, clinical presentation, and course of disease in children. Diagnostic criteria. Treatment and prevention of allergic respiratory diseases. Cardiovascular diseases in children: clinical features, diagnosis, treatment principles, and prevention. Vegetative dystonia syndrome in children and adolescents.	6	14	0
		Online		
		0	0	0
13 - 16	**Gastrointestinal diseases in children. Urinary tract diseases in children. Emergencies in children.** Gastrointestinal diseases in children. Classification, main clinical manifestations, diagnostics, and differential diagnosis. Management strategies, prevention, and medical examination considerations. Classification and characteristics of urinary tract diseases in children. Diagnostic, therapeutic, and preventive methods. Pediatric Emergencies. Diagnostic Criteria, Emergency Care.	All		
		4	16	0
		Online		
		0	0	0

Abbreviated names of online options:

Abbreviation	Full name
EC	E-course
FtM	Full-text material
FtL	Full-text lectures
VM	Video materials
AM	Audio materials
Prs	Presentations
T	Tests
ERM	E-reference materials
IS	Interactive site

PRACTICAL SESSIONS TOPICS

Weeks	Topics / Content
	9 Semester
1 - 4	**Pediatrics as a science. Physical and neuropsychological development of children. Medical problems of the newborn.** The goals and objectives of pediatric science, modern diagnostic methods in pediatrics. Anamnesis collection. Algorithm for examining a healthy and sick child. Outline of a pediatric hospital case history. Patterns of child growth and development. Anatomical and physiological characteristics of young and older children. Factors influencing children's physical development. Development of statics, motor skills, psychology, and the second signaling system in young children. Methods for assessing physical and neuropsychic development. Epidemiology, etiopathogenesis, clinical picture, diagnosis and treatment of measles, rubella, scarlet fever, chickenpox, whooping cough, mumps in children. Acute intestinal infections in children: etiology, pathogenesis, classification. Dehydration

	syndrome. Principles of diagnosis and treatment of secretory and invasive diarrhea. Anti-epidemic measures at the site of infection. Specific and non-specific prevention of infectious diseases.
5 - 8	**Constitutional anomalies. Rickets Anemia, thrombocytopenia, and childhood hematological malignancies. Rheumatic diseases and systemic connective tissue diseases.** Definition and classification of constitutional anomalies (diathesis), clinical forms, and treatment principles. Characteristics of the course of diseases arising from diathesis. Rickets, spasmophilia, hypervitaminosis D: predisposing factors, pathogenesis, classification; clinical presentation, laboratory and radiological changes, differential diagnosis; complications; treatment and prevention of rickets. Classification of anemias in children. Deficiency anemias (iron deficiency, vitamin deficiency). Hemolytic anemia. Microangiopathic hemolytic anemia (Gasser syndrome, Moshkowitz syndrome). Leukemia and hypoplastic anemia in young children. Clinical features and laboratory parameters, complications. Treatment and prevention. Hemorrhagic diathesis. Hemorrhagic vasculitis: etiopathogenesis, clinical features. Differential diagnosis of bleeding disorders: thrombocytopenic purpura, hemorrhagic vasculitis, hemophilia. Principles of diagnosis and treatment. Diffuse connective tissue diseases. Systemic lupus erythematosus. Dermatomyositis. Scleroderma. Juvenile rheumatoid arthritis. Pathogenesis, clinical features, diagnosis, and treatment. The role of streptococcal infection and hereditary predisposition in the etiology of systemic connective tissue diseases in children. Classification. Acute rheumatic fever. Clinical features. Diagnostic criteria. Treatment principles and prognosis.
9 - 12	**Respiratory diseases in children. Allergic diseases in children. Cardiovascular diseases in children.** Semiotics of respiratory diseases in children. Semiotics of cough and dyspnea in children. Respiratory distress syndrome and croup. Acute bronchitis, pneumonia, bronchiolitis. Classification, clinical presentation, diagnosis, and treatment. Hereditary and congenital diseases of the bronchopulmonary system in children: general concept, clinical manifestations, diagnostic criteria. Allergic diseases: atopic dermatitis, urticaria, allergic rhinitis, hay fever, bronchial asthma. Clinical presentation, diagnostic principles, and treatment. Methods for examining a child with cardiovascular pathology. Functional tests, methodology, and evaluation of results. Congenital heart defects. Primary and secondary arterial hypertension in children and adolescents. Correction methods. Vegetative dystonia syndrome in children and adolescents. Predisposing factors. Clinical manifestations. Differential diagnosis. Emergency care for vegetative crises.
13 - 16	**Gastrointestinal diseases in children. Urinary tract diseases in children. Emergencies in children.** Clinical presentation, diagnostics, differential diagnosis, principles of therapy of diseases of the esophagus, stomach and duodenum, diseases of the biliary system, chronic non-specific inflammatory bowel diseases in children. Infectious and inflammatory diseases of the kidneys and urinary tract in children and adolescents. Pyelonephritis. Cystitis. Classification, clinical presentation, diagnosis, and treatment. Glomerulonephritis: etiopathogenesis, classification, diagnostic principles, and treatment. Causes, risk factors, and diagnostic criteria for acute and chronic renal failure.

	Diagnostics, first aid for emergency conditions in children (fever, convulsive syndrome, acute airway obstruction, dehydration, acute allergic reactions (anaphylactic shock, Quincke's edema), fainting, collapse).

6. EDUCATIONAL TECHNOLOGIES

The course's teaching utilizes methods based on modern advances in science and information technology in education. These methods aim to improve the quality of specialist training by developing students' creativity and independence.

For this purpose, both traditional teaching methods (lectures, clinical practical classes) and interactive seminars and clinical case studies are used:

- Training-based practical classes (clinical situational tasks, cases, role-playing in the form of clinical case studies or patient supervision);
- Interactive clinical case studies with patient demonstrations;
- engaging students in preclinical and clinical research, preparing presentation materials, reports, essays, or papers.

7. ASSESSMENT TOOLKIT

The assessment toolkit ensures verification of the intended learning outcomes achievement (competency-based rubrics) using current, midterm and interim assessment of the course.

The link between developed competencies and their assessment is presented in the following table:

Competency	**Achievement rubrics**	**Assessment activity (Syl 1)**
ОПК-6	З-ОПК-6	Ex, T-8, T-15
	У-ОПК-6	Ex, T-8, T-15
	В-ОПК-6	Ex, T-8, T-16, T-8, T-15
ОПК-7	З-ОПК-7	Ex, T-8, T-16, T-8, T-15
	У-ОПК-7	Ex, T-8, T-16, T-8, T-15
	В-ОПК-7	Ex, T-8, T-16, T-8, T-15
ПК-3.2	З-ПК-3.2	Ex, T-8, T-16, T-8, T-15
	У-ПК-3.2	Ex, T-8, T-16, T-8, T-15
	В-ПК-3.2	Ex, T-8, T-16, T-8, T-15

Educational achievement rubrics scales

The scale of each assessment activity varies from 0 to the maximum established point, inclusive. The final assessment of the course is performed on a 100-point scale and represents the sum of the points earned by the student in the section assessments, framework of current and interim assessment.

Sections and interim assessments are considered passed when the student achieves a minimum score equal to 60% of the maximum. The final grade is assigned only upon passing all sections and the interim assessment.

The final grade is assigned in accordance with the following scale:

Total score	Rating on a 4-point scale	Pass/fail examination	ECTS assessment
90-100	5 – *«excellent»*	*«pass»*	A
85-89	4 – «*good*»		B
75-84			C
70-74			D
65-69	3 – «*satisfactory*»		
60-64			E
below 60	2 – «*fail*»	*«fail»*	F

An “excellent” grade indicates a deep and solid mastery of the program material by a student who presents their answers consistently, clearly, and logically, is able to closely link theory with practice, and uses materials from monographic literature in their answers.

A “good” grade corresponds to a student’s solid knowledge of the material, who presents their answers competently and to the point, without any significant inaccuracies.

A “satisfactory” grade corresponds to the basic level of mastery of the material by the student, in which the main material has been mastered, but its details have not been assimilated, the answers contain inaccuracies, insufficiently correct wording and logical inconsistencies.

A grade “pass” corresponds to at least a basic level of mastery of the program material, in which the student possesses the necessary knowledge, skills, and abilities, and is able to apply theoretical principles to solve typical practical problems.

A grade “fail” is given to a student who lacks a significant understanding of the curriculum material, makes significant errors in their answers, or fails all required assignments. These students are generally unable to continue their studies without additional classes.

8. ACADEMIC COURSE EDUCATIONAL, METHODOLOGICAL AND INFORMATIONAL SUPPORT

CORE READING:

1. ЭИ Р38 Pediatric diseases : textbook : учебник, Kildiyarova R.R., Москва: ГЭОТАР-Медиа, 2022

2. ЭИ Д 38 Детские болезни : Гриф УМО по медицинскому и фармацевтическому образованию вузов России., , Москва: ГЭОТАР-Медиа, 2009

3. ЭИ Б 24 Детские болезни : учебник, Баранов А.А., Москва: ГЭОТАР-Медиа, 2012

FURTHER READING:

1. ЭИ К 65 Воздушно-капельные инфекции у детей : учебное пособие для вузов, Копцева А. В., Костюкова Т. Л., Москва: Юрайт, 2024

2. ЭИ А 69 Особенности инфекционных заболеваний у детей : учебник для вузов, Халиуллина С. В. [и др.], Москва: Юрайт, 2024

SOFTWARE:

No special softwares is required

LMS AND ONLINE RESOURCES

https://online.mephi.ru/

http://library.mephi.ru/

9. LOGISTICAL SUPPORT

1. Персональный компьютер: Процессор CPU Intel Core i7-8700 (3.2GHz/12MB/6 cores) Материнская плата Gig (Клиническая база)

2. Мышь, клавиатура (Клиническая база)

3. Проектор SMART P109 (Клиническая база)

4. Кушетка медицинская (Клиническая база)

5. Монитор (Клиническая база)

6. Иное оснащение, предусмотренное порядками оказания медицинской помощи по соответствующему профилю (Клиническая база)

10. EDUCATIONAL AND METHODOLOGICAL RECOMMENDATIONS FOR STUDENTS

Before you begin studying the topic, you need to familiarize yourself with the main questions of the practical lesson plan and the list of recommended literature.

When preparing for a practical lesson, you should first review lecture notes, textbook sections, and teaching aids to gain a general understanding of the topic's place and significance in the course being studied. Then, consult additional literature and take notes on the recommended sources.

In the process of studying the recommended material, it is necessary to understand the structure of the topic being studied, identify the main points, follow their logic and thereby delve into the essence of the problem being studied.

It is necessary to keep records of the material being studied in the form of notes, which, along with visual memory, also includes motor memory and allows for the accumulation of an individual fund of auxiliary materials for the rapid repetition of what has been read, for the mobilization of accumulated knowledge.

Clinical practical classes

The most important stage of the practical lesson is the students' independent work on mastering practical skills: in-simulated conditions, at the patient's bedside, in the functional diagnostics room, etc.

Depending on the specific topic of the lesson, the student independently (or under the supervision of the teacher) questions the patient, conducts a clinical examination, is present during instrumental diagnostics and studies the results of additional studies, summarizes the data, presents it in the form of fragments of the medical history and reports the results to the teacher.

Achievements are assessed individually for each student, based on the degree of development of practical skills and their theoretical foundations.

Clinical case studies of specific patients are conducted for the entire group or through students' participation in clinical case studies and periodic scientific and practical conferences at the medical institutions where their practical training takes place. During these case studies, the instructor evaluates each student's active participation and clinical reasoning skills.

Solving situational problems proposed by the teacher, which develop clinical thinking and force the student to use knowledge gained in various subjects of the specialty.

Active and interactive forms of conducting classes are widely used in the educational process (work in small groups, activation of creative activities, use of computer training programs, conference classes).

The teacher supervises the students' independent work, preparation of abstracts, research and development work, work with the patient together with the teacher, interpretation of data from additional research methods, and completion of medical documentation.

Basic note-taking forms: outline (simple and detailed), excerpts, and abstracts. During preparation, it is important to compare sources, consider the material being studied, develop an action plan, and carefully consider your oral presentation.

Recommendations for preparing for the test.

Test – 10-15-20-25 points. Each question – 1 (2) point.

TOPICS: Specified in each specific section

Answer requirements: A clear, detailed answer (2 points/question) or a choice of the correct answer to the test question (1 point/question).

Recommendations for preparing for a test/exam

Response requirements and evaluation criteria:

An "excellent" grade of 45-50 points on a test/exam is awarded for: a correct, complete, and logically constructed answer; the ability to use specialized terminology; the ability to illustrate theoretical principles with practical material.

A "good" grade of 35–44 points on the exam is awarded for: a correct, complete, and logically constructed answer with minor errors or inaccuracies; the ability to use specialized terminology, but incomplete conclusions or generalizations are made.

A “satisfactory” grade of 30–34 points on the exam is given for: a schematic, incomplete answer; inability to use special terms or ignorance of them; with one serious error;

An "unsatisfactory" grade of <30 points on the exam is given for: answering all questions on the ticket with serious errors; inability to use specialized terminology; inability to give examples of the practical use of scientific knowledge.

Admission to the exam in a discipline is granted based on a score of over 30 points.

A student can earn between 30 and 50 points per semester.

The minimum score for an exam answer is 30, the maximum is 50.

11. EDUCATIONAL AND METHODOLOGICAL RECOMMENDATIONS FOR TEACHERS

In the process of organizing and conducting the educational process, the teacher must be able to plan and organize their time, which allows for the distribution of the teaching load and is an important condition for the successful teaching of the discipline.

The teacher must be actively involved in the educational process and prepare for it. The need for ongoing preparation for lectures, seminars, and practical classes is driven by the need to reflect modern approaches, views, and data on topics and sections.

When preparing for the educational process, it is necessary to study modern methodological recommendations, the results of scientific research, new technologies, etc.

The goal of a teacher's work should be the effective comprehension of the material by students. The following types of learning activities are implemented during the teaching process: lectures, seminars, practical classes, and independent work.

When implementing various types of educational work, the teacher must use educational technologies (creation of interactive presentations, educational computer programs, technologies for developing thinking (effective lectures, tables, group work, etc.)

During practical classes, students are monitored for their assimilation of lecture material, patients are supervised, and practical skills are monitored.

To demonstrate and train practical skills, visual aids, surgical instruments, training devices, simulators of devices, or demonstrations of ophthalmological manipulations in real conditions are used.

To assess their clinical thinking abilities, students are offered situational clinical tasks, clinical histories, test assignments, case studies, and attendance at medical conferences, consultations, and scientific symposia.

The most important stage of the practical lesson is the students' independent work on mastering practical skills: in simulated conditions, at the patient's bedside, in the functional diagnostics room, etc.

Depending on the specific topic of the lesson, the student independently (or under the supervision of the teacher) questions the patient, conducts a clinical examination, is present during instrumental diagnostics and studies the results of additional diagnostic methods, summarizes the data, presents it in the form of fragments of the medical history and reports the results to the teacher. Achievements are assessed individually for each student, based on the degree of development of practical skills and their theoretical foundations.

Clinical analyses of thematic patients are conducted for the entire group or through the participation of students in clinical analyses and periodic scientific and practical conferences in medical organizations where practical training takes place. During the analysis, the teacher evaluates each student’s active participation and ability to think clinically.

Solving situational clinical tasks proposed by the teacher, which develop clinical thinking and force the student to use knowledge gained in various subjects of the specialty.

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