

DANYLO HALISTKY  
LVIV NATIONAL MEDICAL UNIVERSITY

Department of Pediatrics # 2

“APPROVED”

First Vice-Rector on  
Scientific and Pedagogical work  
Danylo Halystky Lviv National  
Medical University  
Associate Professor **SOLONYNKO**



2023

THE PROGRAM OF THE DISCIPLINE  
«PEDIATRICS»

EB 3.4

Individual profile course: Preventive medicine  
3.4.4. PAEDIATRICS, CHILDREN'S INFECTIONS  
CLINICAL IMMUNOLOGY  
3.4.4.1 PAEDIATRICS

training of specialists of the second (master's) level of higher education  
field of knowledge 22 "Healthcare"  
specialty 222 "Medicine"

Discussed and endorsed at the methodological  
meeting of the Department of Pediatrics #2  
Protocol № 12 of "21" April 2023  
Head of the Department of Pediatrics #2  
Professor Lesya Besh

Approved by the Thematic methodological  
commission on Pediatric disciplines  
Protocol № 2 of "27" April 2023  
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2023

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## Introduction

### Program of discipline "Pediatrics"

The program is made according to the Educational-professional program "Medicine" of the second (master's) level of higher education  
 on a specialty 222 "Medicine"  
 field of knowledge 22 "Health"

#### Description of academic discipline (abstract)

Studying the discipline "Pediatrics" students consolidate knowledge gained in the classroom at the department of Propaedeutic Pediatrics and pediatric departments years 4-5. They are mastering basic skills of collecting anamnesis, conducting a physical examination, systemizing the symptoms in syndromes, planning examination of a sick child, interpretation of laboratory and instrumental examinations, carrying out a differential diagnosis most common diseases of the neonatal period and childhood, determination of the preliminary clinical diagnosis, determination of therapeutic tactics, comprehensive treatment with drug dosages administration, emergency medical care not only in typical but also in complex clinical situations. The 6<sup>th</sup> year students are solving complex (atypical) clinical cases, working off practical skills on mannequins and near the bed of a sick child, feeling in the medical records.

#### Academic curriculum for discipline "Pediatrics for students of the medical faculties specializing in 222 - Medicine"

Structure of the educational discipline	Quantity of credits, hours, of which:			Self-education	Educational year	Type of control
	Total hours/credits	Classroom				
		Lecture	Practical			
<i>Pediatrics</i> <i>Thematic chapters 5</i>	180/6	0	90	90	6	credit

#### The subject of the study of the discipline is:

Differential diagnosis of diseases of bronchopulmonary, cardiovascular, digestive, urinary systems, systemic connective tissue diseases in children of different ages, observation of children in the polyclinic. Emergency conditions, newborn resuscitation. Prevention and treatment of diseases, taking into account the main, concomitant diagnoses and complications, age-related features of drug therapy.

**Interdisciplinary integration:** according to the curriculum, the study of the discipline "Pediatrics" is provided during the 6th academic year (XI -XII semesters), when the student has acquired knowledge of the basic disciplines, at clinical departments during 3-5 academic years:

- Medical Biology,
- Biological physics
- Normal human anatomy and physiology
- Pathological anatomy and physiology
- Histology, Cytology and Embryology
- Propaedeutic of pediatrics
- Pediatrics 4-5 courses
- Pharmacology
- Microbiology
- Clinical immunology
- Hygiene and Ecology
- Radiology

The program of the discipline "Pediatrics" is integrated and continues with these disciplines. As a continuation of propaedeutics of pediatrics, Pediatrics, together with other clinical disciplines, involves into the future physicians' ability to apply the acquired knowledge in further professional activities.

### 1.0 PURPOSE OF LEARNING THE DISCIPLINE

1.1 The purpose of teaching the discipline "pediatrics" is development of the ability to use knowledge, skills, abilities and understanding to solve typical and complex tasks of a doctor in the field of children's health, the

scope of which is provided by a lists of syndromes and symptoms, diseases, emergencies, physiological conditions and diseases, laboratory and instrumental tests, medical manipulations. Differential diagnosis of diseases of bronchopulmonary, cardiovascular, digestive, urinary systems, systemic connective tissue diseases in children of different ages, observation of children in the polyclinic. Emergency care for severe complications, bleeding, resuscitation of newborns. Prevention and treatment of diseases, taking into account the main, concomitant diagnoses and complications, age-related features of drug therapy.

1.2. The main task of studying the discipline of "pediatrics" is that the student must know and be able to study the discipline.

As a result of studying the discipline of "pediatrics" the student must know:

- etiological factors of the most common diseases of childhood;
- pathogenesis of the most common diseases of childhood;
- classification of the most common diseases of childhood;
- the main clinical symptoms of the most common diseases of childhood;
- principles of treatment of the most common diseases of childhood.

As a result of studying the discipline of "pediatrics" the student must be able to:

- take medical history;
- examine a sick child;
- make a preliminary clinical diagnosis;
- plan an examination of a sick child;
- interpret data from laboratory and instrumental tests;
- to conduct a differential diagnosis of the most common diseases of childhood in the case of their typical course;
- prescribe treatment;

1.3. **Competences and learning outcomes**, the formation of which is facilitated by the discipline in accordance with the requirements of the Standard of Higher Education, the discipline provides students with the acquisition of competencies:

**General:**

- GC1 The ability to abstract thinking, analysis, and synthesis
- GC2 Ability to learn and master modern knowledge
- GC3 Ability to apply knowledge in practical situations
- GC4 Knowledge and understanding of subject area and understanding of professional activity
- GC5 The ability to adapt and act in a new situation
- GC6 Ability to make an appropriate decision
- GC7 Ability to work in a team
- GC8 Interpersonal skills interaction
- GC9 Ability to communicate in foreign language
- GC10 Skills in using information and communication technologies
- GC11 Ability to search, process and analyze information from various sources
- GC12 Certainty and perseverance on the tasks and responsibilities
- GC13 Awareness of equal opportunities and gender issues
- GC14 The ability to exercise their rights and responsibilities as a member of society, to realize the values of civil (free democratic) society and the need for its sustainable development, the rule of law, human and civil rights
- GC15 Ability to retain and develop moral, cultural, scientific values and achievements of society based on understanding the history and patterns of development of the subject area, its place in the general system of knowledge about nature and society and in the development of society, technology, use various types of physical activities for recreation and a healthy lifestyle

**Special (Professional):**

- SC1 Ability to collect medical information about the patient and analyze clinical data
- SC2 Ability to determine the required list of laboratory and instrumental studies and assess their results.

- SC3 The ability to establish preliminary and clinical diagnosis
- SC5 Ability to prescribe an appropriate diet in treatment and prevention of diseases
- SC6 Ability to determine the principles and type of treatment and prevention of diseases
- SC7 The ability to diagnose emergency conditions
- SC8 Ability to determine the tactics and implement emergency medical care
- SC10 The skills of performing medical manipulations
- SC11 Ability to solve medical problems in new or unfamiliar environments in the presence of incomplete or limited information taking into account aspects of social and ethical responsibility
- SC13 Ability to carry out sanitary and hygienic and preventive measures
- SC14 Ability to plan and carry out preventive and anti-epidemic measures for infectious diseases
- SC16 Ability to keep medical records, including electronic forms
- SC21 Clearly and unambiguously to convey own knowledge, conclusions and arguments on health care problems and related issues to specialists and non-specialists, in particular to people who are studying
- SC24 Adherence to ethical principles when working with patients
- SC25 Adherence to professional and academic integrity, be responsible for the accuracy of scientific results

Detailing of competencies in accordance with the National Qualification Frame (NQF) descriptors is given in the form of the "Competence Matrix".

### Competence matrix

№	Competence	Knowledge	Skills	Communication	Autonomy and responsibility
<b>Integral competence</b>					
The ability to solve complex problems, including those of a research and innovation nature in the field of medicine. Ability to continue learning with a high degree of autonomy					
<b>General competencies</b>					
1.	Ability to abstract thinking, analysis and synthesis	Know the methods of analysis, synthesis and continued medical education	Be able to analyze information, make informed decisions, be able to master modern knowledge	Establish appropriate connections to achieve goals	To be responsible for the timely acquisition of modern knowledge
2.	Ability to learn and master modern knowledge	Know the current trends in the field and analyze them	Be able to analyze professional information, make informed decisions, acquire modern knowledge	Establish appropriate connections to achieve goals	Be responsible for the timely acquisition of modern knowledge
3.	Ability to apply knowledge in practical situations	Have specialized conceptual knowledge acquired in the learning process	Be able to solve complex problems and problems that arise in professional activities	Clear and unambiguous communication of one's own conclusions, knowledge and explanations that substantiate them to specialists and non-specialists	Responsible for making decisions in unusual conditions
4.	Knowledge and	Have deep knowledge of	Be able to carry out professional	Ability to effectively form a	To be responsible for professional

	understanding of the subject area and understanding of professional activity	the structure of professional activity	activities that require updating and integration of knowledge	communication strategy in professional activities	development, ability to further professional training with a high level of autonomy
5.	Ability to adapt and act in a new situation	Know the types and methods of adaptation, principles of action in a new situation	To be able to apply means of self-regulation, to be able to adapt to new situations (circumstances) of life and activity	Establish appropriate connections to achieve result	Be responsible, timely use of self-regulation methods
6.	Ability to make an informed decision	Know the tactics and strategies of communication, laws and ways of communicative behavior	Be able to make informed decisions, choose ways and strategies to communicate to ensure effective teamwork	Use communication strategies and interpersonal skills	Be responsible for the choice and tactics of communication
7.	Ability to work in a team	Know the tactics and strategies of communication, laws and ways of communicative behavior	Be able to choose ways and strategies of communication to ensure effective teamwork	Use communication strategies	Be responsible for the choice and tactics of communication
8.	Interpersonal interaction skills	Know the laws and methods of interpersonal interaction	Be able to choose ways and strategies of communication for interpersonal interaction	Use interpersonal skills	Be responsible for the choice and tactics of communication
9.	Ability to communicate in a foreign language	Have a basic knowledge of a foreign language	Be able to communicate in a foreign language.	Use a foreign language in professional activities	To be responsible for the development of professional knowledge with the use of a foreign language
10.	Skills in the use of information and communication technologies	Have in-depth knowledge in the field of information and communication technologies used in professional activities	Be able to use information and communication technologies in the professional field, which requires updating and integration of knowledge.	Use information and communication technologies in professional activities	Be responsible for the development of professional knowledge and skills.
11.	Ability to search, process and analyze information from various sources	Have knowledge about searching and analysis of information from various sources	Be able to search, process and analyze information	Use and communicate obtained information and its analysis	Be responsible for searching, processing and analysis of information
12.	Certainty and	Know the	Be able to set goals	Establish	Responsible for the

	perseverance on the tasks and responsibilities	responsibilities and ways to accomplish the tasks	and objectives to be persistent and conscientious in the performance of duties	interpersonal relationships to effectively perform tasks and responsibilities	quality of the tasks
13.	Awareness of equal opportunities and gender issues	Know about equal opportunities and gender issues	Be able to defines principles of equal opportunities and gender issues	Communicate awareness of equal opportunities and gender issues	Be responsible in implementation of principles of equal opportunities and gender issues
14.	The ability to exercise their rights and responsibilities as a member of society, to realize the values of civil (free democratic) society and the need for its sustainable development, the rule of law, human and civil rights	Know your social and community rights and responsibilities	To form one's civic awareness, to be able to act in accordance with it	Ability to convey one's public and social position	Be responsible for your social position and activities
15.	Ability to retain and develop moral, cultural, scientific values and achievements of society based on understanding the history and patterns of development of the subject area, its place in the general system of knowledge about nature and society and in the development of society, technology, use various types of physical	Know about moral, cultural, scientific values and achievements of society the basics of ethics and deontology	Be able to develop moral, cultural, scientific values and achievements of society	Ability to convey moral, cultural, scientific values and achievements of society	Be responsible for implementation of moral, cultural, scientific values and achievements of society

	activities for recreation and a healthy lifestyle				
<b>Special (professional, subject) competencies</b>					
1.	Ability to collect medical information about the patient and analyze clinical data	Have specialized knowledge about the child, organs and systems, anatomical and physiological features of children of different ages, know the methods and standard schemes of interviewing, taking genealogical information, pedigree, physical examination of patients of different ages. Know the methods of assessing of intrauterine fetal development. Know the stages and methods of examination of psychomotor and physical development of the child	Be able to conduct a conversation with the child and / or her parents (guardians), based on algorithms and standards. Use the principles of communication with parents of children with incurable diseases. Using standard techniques to conduct a physical examination of the patient. Be able to examine the psychomotor and physical development of the child. Be able to assess the quality of care, breastfeeding and child nutrition. Be able to conduct a comprehensive assessment of the child's health	Effectively develop a communication strategy when communicating with the patient and / or his parents (guardians). Include information about the child's health or fetal development in the relevant medical records	Be responsible for the quality collection of information obtained through interviews, surveys, examinations, palpation, percussion of organs and systems and for timely assessment of the child's health, psychomotor and physical development of the child and fetal development and for taking appropriate measures
2.	Ability to determine the required list of laboratory and instrumental studies and assess their results	Have specialized knowledge about the child, peculiarities of organs and systems, standard methods of laboratory and instrumental evaluation	Be able to analyze the results of laboratory and instrumental studies and on their basis to evaluate information about the patient's diagnosis	To make and communicate to the patient and / or his/her parents (guardians), specialists conclusions on necessary laboratory and instrumental tests	Be responsible for deciding on the evaluation of laboratory and instrumental tests
3.	The ability to	Have	Be able to	On the basis of	Adhering to ethical



	establish preliminary and clinical diagnosis	specialized knowledge about the child, organs and systems; standard examination methods; disease diagnosis algorithms; algorithms for discrimination of leading symptoms or syndromes; preliminary and final diagnoses; methods of laboratory and instrumental examination; knowledge of assessing the child's condition	perform a physical examination of the patient; be able to make an informed decision about the selection of the leading clinical symptom or syndrome; be able to make a preliminary and clinical diagnosis); to order laboratory and instrumental tests	normative documents to keep medical documentation of the patient (outpatient / inpatient records).	and legal norms, be responsible for making informed decisions and actions regarding the correctness of the established preliminary and clinical diagnosis
5.	Ability to prescribe an appropriate diet in treatment and prevention of diseases	Have specialized knowledge about the child, organs and systems, anatomical, physiological age-dependent characteristics; algorithms and standard schemes of nutrition for healthy children and during the treatment of diseases	Be able to determine the type of nutrition of healthy children and on the basis of preliminary and final diagnoses, the type of nutrition in the treatment of diseases	Make and communicate to the patient and / or his parents (guardians), specialists conclusions on the nutrition of healthy children and in the treatment of diseases	Be responsible for the correct choice of nutrition for healthy and sick children
6.	Ability to determine the principles and type of treatment and prevention of diseases	Have specialized knowledge of algorithms and standard protocols for the treatment of diseases	Be able to make plan and particular treatment of the disease	Draw conclusions about treatment and inform the patient and / or his parents (guardians)	Be responsible for decisions regarding the treatment of the disease
7.	The ability to diagnose emergency	Have a specialized knowledge	Be able, in the absence of information,	Under any circumstances, adhering to the	Be responsible for the timeliness and effectiveness of

	conditions	about the child, his organs and systems, standard methods of pediatric examination (at home, on the street, in a health care facility) in the absence of information	using standard techniques, by making an informed decision to assess the child's condition and determine the main clinical syndrome (or what causes the severity of the emergency)	relevant ethical and legal issues to make an informed decision to assess the severity of the child's condition, diagnosis and organization of management depending on the child's condition; fill in the relevant medical records	medical measures to diagnose emergencies
8.	Ability to determine the tactics and implement emergency medical care	Know the legal framework for the provision of emergency medical care. Have specialized knowledge about urgent pediatric care.	Be able to identify emergencies; principles and tactics of emergency medical care; to carry out organizational and diagnostic measures aimed at saving child's life.	Reasonable formulate and communicate to the patient or his / her legal representative the need for emergency care and obtain consent for medical intervention	Be responsible for the correct diagnosis of the emergency condition, severity and tactics of emergency medical care
10.	Skills to perform medical manipulations	Have specialized knowledge on pediatric anatomy and physiology; algorithms for Provision medical manipulation	Be able to perform medical manipulations	Reasonable formulate and communicate to the patient or his / her legal representative the need for medical manipulations and obtain consent for medical manipulations	Be responsible for the quality of medical manipulations
11.	Ability to solve medical problems in new or unfamiliar environments in the presence of incomplete or limited information taking into account aspects of social and ethical responsibility	Know how to solve medical problems in new or unfamiliar environments in the presence of incomplete or limited information	Be able to solve medical problems in new or unfamiliar environments in the presence of incomplete or limited information taking into account aspects of social and ethical responsibility	Communicate methods of solving of medical problems in new or unfamiliar environments in the presence of incomplete or limited information	Be responsible for solving medical problems in new or unfamiliar environments in the presence of incomplete or limited information
13.	Ability to carry out sanitary and hygienic	To know the system of hygienic and	Be able to form groups of children for their medical	Based on the results of medical supervision and analysis of	To be responsible for the timely and high-quality

	and preventive measures	<p>preventive measures among in the community. To know the principles of organization of medical follow-up of different age groups subject to dispensary supervision (newborns, children, teenagers) and specific groups of patients; Know the indicators of evaluation of the organization and effectiveness of medical care. Know the methodological approaches to assess the state of the environment and the presence of factors that affect the health of the population in the environment. Know the principles of nutrition, water supply, mode of activity and recreation, the formation of a favorable working environment, primary prevention of disease and injury; principles and methods of promoting a healthy lifestyle</p>	<p>follow-up. Be able to make a plan for medical follow-up of different groups. Have the skills to organize medical follow-ups of relevant contingents. Have the skills to analyze the health status of groups of the population based on the results of medical follow-ups and the development of medical and preventive measures. Have the skills to compile an analytical report on the health of children depending on the environment. Be able to organize the promotion of a healthy lifestyle, primary prevention of diseases and injuries</p>	<p>children's health, the state of industry and the environment to know the principles of submitting analytical information to local government and health; heads of industrial enterprises to take measures to eliminate harmful effects on children's health. Use the local press to publish health and environmental promotion activities, use radio, television, lectures and interviews</p>	<p>implementation of measures to assess the health of children, rehabilitation and improvement of the health of certain contingents, improving the environment, promoting a healthy lifestyle, primary prevention of disease and injury</p>
14.	Ability to plan and carry out	To know the system of	Have the skills to analyze the state	Clearly and unambiguously to	Be responsible for the timely and high-

	preventive and anti-epidemic measures regarding infectious diseases	hygienic and preventive measures among the established contingent of the population	of health of population groups and develop medical and preventive measures	convey own knowledge about the need for preventive and anti-epidemic measures to specialists and non-specialists	quality implementation of preventive and anti-epidemic measures
16.	Ability to keep medical records, including electronic forms	Know the system of official document management in the work of a doctor, including modern computer information technology	Be able to determine the source and location of the required information depending on its type;	Obtain the necessary information from a specific source and on the basis of its analysis to form appropriate conclusions	Be responsible for the completeness and quality of the analysis of information and conclusions based on its analysis
21.	Clearly and unambiguously convey own knowledge, conclusions and arguments on health care and related issues to specialists and non-specialists, in particular to people who are studying	Critically consider problems in the field and on the border of the fields of knowledge	Ability to solve problems in new and unfamiliar environments in the presence of incomplete or limited information, taking into account aspects of social and ethnic responsibility	Use foreign languages in professional activities	Be responsible for contributing to professional knowledge and practice and/or evaluating outcomes
24.	Adherence to ethical principles when working with patients	To know the basic ethical and deontological principles necessary in professional activity	To be able to apply basic ethical considerations (motives) during the performance of professional duties	To comply with the requirements of ethics, bioethics and deontology in their professional activities	To be responsible for compliance with the requirements of ethics, bioethics and deontology in one's professional activity
25.	Adherence to professional and academic integrity, be responsible for the accuracy of scientific results	To know the basic ethical and deontological principles necessary in professional activity	Be able to implement professional, academic, and scientific integrity	Share information on professional, academic, and scientific integrity	Be responsible of professional and academic integrity, the accuracy of scientific results

## **Program learning results (PLR)**

PLR 1. Have a thorough knowledge of the structure of professional activity. Be able to carry out professional activities that require updating and integration of knowledge. To be responsible for professional development, ability to further professional training with a high level of autonomy.

PLR 2. Understanding and knowledge of basic and clinical biomedical sciences, at a level sufficient to solve professional problems in the field of health care.

PLR 3. Specialized conceptual knowledge, which includes scientific achievements in the field of health care and is the basis for research, critical understanding of problems in the field of medicine and related interdisciplinary problems.

PLR 4. Identify and identify the leading clinical symptoms and syndromes; according to standard methods, using preliminary data of the patient's anamnesis, data of the patient's examination, knowledge about the person, his organs and systems, to establish a preliminary clinical diagnosis of the disease.

PLR 5. Collect complaints, life history and disease, assess the psychomotor and physical development of the patient, the state of organs and systems of the body, based on the results of laboratory and instrumental studies to assess information about the diagnosis, taking into account the patient's age.

PLR 6. Establish a final clinical diagnosis by making an informed decision and analysis of the obtained subjective and objective data of clinical, additional examination, differential diagnosis, adhering to the relevant ethical and legal norms, under the supervision of a physician-manager in a health care institution.

PLR 7. Order and analyze additional (mandatory and optional) examination methods (laboratory, functional and / or instrumental) for differential diagnosis of diseases.

PLR 9. To determine the nature and principles of treatment of patients (conservative, operative), taking into account the age of the patient, in a health care facility, outside it and at the stages of medical evacuation, including in the field, on the basis of a preliminary clinical diagnosis, adhering to the relevant ethical and legal norms, by making an informed decision on existing algorithms and standard schemes. If necessary to expand the standard scheme and justify personalized recommendations under the supervision of a physician.

PLR 10. To determine the necessary mode of work, rest and nutrition based on the final clinical diagnosis, adhering to the relevant ethical and legal norms, by making an informed decision according to existing algorithms and standard schemes.

PLR 12. Assess the general condition of the newborn child by making an informed decision according to existing algorithms and standard schemes, adhering to the relevant ethical and legal norms.

PLR 13. Assess and monitor the child's development, provide recommendations for breastfeeding and nutrition depending on age, organize preventive vaccinations on the calendar.

PLR 14. Define tactics and provide emergency medical care in emergencies for a limited time in accordance with existing clinical protocols and treatment standards.

PLR 17. Perform medical manipulations in a medical institution, at home or at work based on a previous clinical diagnosis and / or indicators of the patient's condition by making an informed decision, adhering to the relevant ethical and legal norms.

PLR 18. Evaluate the state of functioning and restrictions of life of the person and the duration of disability with the registration of relevant documents at health care institution on the basis of data on illness and its course, features of human professional activity, etc. Keep a medical document on the patient and a certain contingent of the population on the basis of regulatory documents.

PLR 20. Analyze the epidemiological condition and take measures of mass and individual, general and local prevention of infectious diseases.

PLR 21. Search for the necessary information in the professional literature and databases of other sources, analyze, evaluate and apply this information.

PLR 24. Organize the necessary level of individual safety (own and care persons) in the event of typical dangerous situations in the individual field of activity.

PLR 25. Clearly and unambiguously communicate knowledge, conclusions and arguments on health issues and related issues to professionals and non-specialists.

PLR 29. Plan, organize and conduct activities for the specific prevention of infectious diseases, including in accordance with the National Calendar of preventive vaccinations, both mandatory and recommended. Manage vaccine residues; organize additional vaccination campaigns, including immune-prophylaxis measures.

### **Learning outcomes for Discipline:**

- To assess information on the diagnosis at the conditions of health care, its unit, using knowledge of the laws of development and the occurrence of diseases in children, based on the results of examination of the patient and results of laboratory and instrumental investigations.
- To make differential diagnosis of disease.
- Prescribe treatment.
- To determine the prognosis of the disease.

### **2. Information volume of academic discipline**

6.0 Credits ECTS 180 hours are allocated for studying a discipline.

#### **Thematic chapter 1.**

#### **Differential diagnosis of the most common respiratory tract diseases in childhood. Emergency care**

##### **Topic 1. Differential diagnosis of pneumonia in children. Prevention of complications of pneumonia.**

##### **Acute respiratory disease COVID-19 in children: presentation, diagnosis, prevention of the infection.**

Leading clinical symptoms and syndromes in different clinical variants of pneumonia in children. Results of laboratory and instrumental studies in different clinical variants of pneumonia. Differential diagnosis of pneumonia, bronchitis, and bronchiolitis in children. Making a preliminary diagnosis. Prevention of pneumonia and its complications in children. Clinical presentation and course of COVID-19. Updated diagnosis and management protocol. Prophylaxis. Type of vaccines and individual protection devices.

##### **Topic 2. Differential diagnosis of bronchial obstruction in children.**

Leading clinical symptoms and syndromes in bronchial asthma, bronchiolitis and acute obstructive bronchitis in children. Peculiarities of asthma in children, depending on the severity and level of control. Results of laboratory and instrumental studies in bronchial asthma, bronchiolitis and acute obstructive bronchitis and its complications. Differential diagnosis of asthma and bronchial obstruction versus acute respiratory infections in children of all ages. Making the preliminary diagnosis. Treatment of patients with different clinical variants of obstructive syndrome and its complications in children. Provision emergency assistance in an asthma attack and status asthmaticus. Environmental prevention of asthma and triggering respiratory infections.

##### **Topic 3. Differential diagnosis and prevention of pulmonary diseases in newborns.**

Diagnostic approach for lung pathology in newborns. Assessment of the type and severity of respiratory disorders. Differential diagnosis. The main complications. Contemporary approaches to treatment.

##### **Topic 4. Primary and secondary prevention of allergic pathology.**

Current advances in prevention of allergic pathology in children.

##### **Topic 5. Differential diagnosis of hereditary, congenital, and chronic broncho-pulmonary disease in children.**

Leading clinical symptoms and syndromes in chronic bronchitis, bronchiectasis, hereditary and congenital diseases of respiratory system (cystic fibrosis, idiopathic pulmonary hemosiderosis, primary cilia dyskinesia, a syndrome of Wilms Campbell bronchomalacia, aplasia and hypoplasia of the lungs,  $\alpha$ 1-antitrypsin deficiency, bronchopulmonary dysplasia, sequestration lung) in children. The results of laboratory and instrumental studies in chronic bronchitis, bronchiectasis, hereditary and congenital diseases of the respiratory system and their complications. Differential diagnosis of chronic, hereditary, and congenital bronchopulmonary disease in children. Clinical management of patients with hereditary, congenital, and chronic bronchopulmonary diseases and their complications in children. Prevention of hereditary, congenital, and chronic bronchopulmonary diseases in children.

##### **Topic 6. Current aspects in antibiotic therapy in children.**

Therapeutic range of antibiotic therapy. Types of antibacterial drugs. Types of antibiotic action modes. Pharmacokinetics, pharmacodynamics. Age-specific indications and contraindications and concomitant pathology.

## Thematic chapter 2.

**Differential diagnosis of the most common diseases of the circulatory system, systemic connective tissue diseases in children. Emergency care**

**Topic 7. Differential diagnosis of congenital heart diseases in children. Early diagnosis and treatment.**

Leading clinical symptoms and syndromes of congenital heart disease in children. Data from laboratory and instrumental tests of congenital heart disease in children. Differential diagnosis. Management plan.

**Topic 8. Differential diagnosis of inflammatory and non-inflammatory heart disease in children.**

Leading clinical symptoms and syndromes in cardiac pathology in children. Clinical variants and complications of myocarditis, endocarditis, pericarditis, cardiomyopathy, congenital and acquired heart defects in children. Laboratory and instrumental studies in myocarditis, endocarditis, cardiomyopathy, congenital and acquired heart defects in children. Clinical manifestations of heart failure in children of different age groups. Differential diagnosis. Management of myocarditis, endocarditis, cardiomyopathy, congenital and acquired heart defects in children.

**Topic 9. Heart failure in children. Medicines used in pediatric cardiology.**

Etiology of heart failure in children. Emergency care for acute heart failure. Treatment and prevention of chronic heart failure. Groups of medicines used in pediatric cardiology.

**Topic 10. Differential diagnosis of abnormal cardiac rhythm and conduction in children by ECG tracing.**

ECG changes in extrasystole, paroxysmal tachycardia, atrial fibrillation, complete atrioventricular block. Clinical variants of the course of paroxysmal tachycardia and atrial fibrillation in children. Differential diagnosis of arrhythmias.

**Topic 11. Differential diagnosis of systemic connective tissue disease and systemic vasculitis in children.**

Leading clinical symptoms and syndromes in juvenile rheumatoid arthritis, systemic lupus erythematosus, acute rheumatic fever, dermatomyositis, scleroderma, Kawasaki disease, polyarteritis nodosa and other systemic vasculitis in children. Clinical variants of the course and complications of systemic connective tissue diseases and systemic vasculitis in children. The results of laboratory and instrumental studies in systemic connective tissue diseases and systemic vasculitis in children. Differential diagnosis of systemic connective tissue diseases in children. Differential diagnosis of arthritis in children. Clinical management of patients with systemic connective tissue diseases and systemic vasculitis in children. Primary and secondary prevention of acute rheumatic fever in children.

**Topic 12. Kawasaki disease in children: causes, symptoms, diagnosis and treatment.**

Differential diagnosis of the disease and Kawasaki syndrome. Diagnostic approach, treatment, prognosis.

## Thematic chapter 3.

**Differential diagnosis of the most common disease of the digestive tract in children. Emergency care in common emergency conditions.**

**Topic 13. Differential diagnosis of functional and organic diseases of the digestive system in children. Differential diagnosis of abdominal pain in children.**

Leading clinical symptoms and syndromes in functional and organic diseases of the digestive system in children. Clinical and instrumental tests and differential diagnosis. Management. Differential diagnosis of abdominal pain.

**Topic 14. Differential diagnosis of the hepatic, biliary system, and pancreas in children. Syndrome of portal hypertension.**

Leading clinical symptoms and syndromes in biliary dyskinesia, acute and chronic cholecystitis, acute and chronic pancreatitis, and chronic hepatitis in children. Clinical variants of the course of biliary dyskinesia, acute and chronic cholecystitis, acute and chronic pancreatitis, and chronic hepatitis in children. The results of laboratory and instrumental studies in biliary dyskinesia, acute and chronic cholecystitis, acute and chronic pancreatitis, and chronic hepatitis in children. Differential diagnosis of biliary dyskinesia, acute and chronic cholecystitis, acute and chronic pancreatitis, and chronic hepatitis in children. Clinical management of patients with biliary dyskinesia, acute and chronic cholecystitis, acute and chronic pancreatitis, and chronic hepatitis in

children. Emergency care in acute hepatic failure and complications of portal hypertension syndrome. Prevention of biliary dyskinesia, acute and chronic cholecystitis, acute and chronic pancreatitis, and chronic hepatitis in children.

**Topic 15. Gastric bleeding in children: principles of diagnosis, treatment and prevention.**

Diagnosis of complicated course of diseases of the digestive system. Diagnostic evaluation in gastric bleeding. Emergency care in gastric bleeding in children.

**Topic 16. Differential diagnosis of malabsorption syndrome in children.**

Malabsorption syndrome, clinical manifestations, causes. Current approaches to the diagnosis of malabsorption syndrome, treatment. Multidisciplinary approach.

**Topic 17. Diagnosis, differential diagnosis and prevention of hepatitis in children.**

Multidisciplinary approach in the diagnosis, treatment and prevention of hepatitis in children.

**Thematic chapter 4.**

**Differential diagnosis of the most common diseases of the urinary tract in children. Emergency care in common emergency conditions.**

**Topic 18. Differential diagnosis of infectious and inflammatory disease of the urinary system in children.**

Leading clinical symptoms and syndromes in inflammatory diseases of the urinary system (urinary system infections, urethritis, cystitis, pyelonephritis) dysmetabolic nephropathy. Clinical variants and complications of infectious diseases of the urinary system, interstitial nephritis. The results of the laboratory and instrumental tests. Differential diagnosis of the most common infectious diseases of the urinary system. First aid in acute urinary retention. Prevention of urethritis, cystitis, pyelonephritis.

**Topic 19. Differential diagnosis and treatment of glomerulonephritis in children. Prevention of acute and chronic renal failure in children. Management. Differential approaches to treatment.**

Clinical and morphological variants of primary glomerulonephritis in children. Differential diagnosis of acute post-streptococcal glomerulonephritis with hereditary Alport nephritis, rapidly progressive glomerulonephritis, Berger's disease. Nephrotic syndrome in children: Differential diagnosis, complications. Clinical variants of chronic glomerulonephritis in children. Indications for renal biopsy in children. Clinical management of the sick child in acute and chronic glomerulonephritis. Tactics in treatment of acute and chronic glomerulonephritis in children. Clinical supervision of children with glomerulonephritis. Prevention of chronic kidney disease. Acute kidney injury (acute renal failure) in children: etiology, pathogenesis, clinical and laboratory symptoms, Differential diagnosis. Emergency tactics of sick children. Chronic renal failure. Treatment approach. Prevention of progression of chronic renal failure.

**Topic 20. Differential diagnosis of hereditary disease of the urinary system in children.**

Leading clinical symptoms and syndromes in dysmetabolic nephropathy, hereditary tubulopathy (phosphate diabetes, Syndrome Debre-de Toni-Fanconi, renal diabetes insipidus, renal tubular acidosis) and interstitial nephritis in children. Clinical variants of the course and complications of hereditary dysmetabolic tubulopathy in children. The results of the laboratory and instrumental tests in dysmetabolic nephropathy and hereditary tubulopathy in children. Differential diagnosis hereditary dysmetabolic tubulopathy in children. Clinical management of the sick child in dysmetabolic nephropathy and hereditary tubulopathy in children.

**Topic 21. Illnesses accompanied by hematuria and proteinuria in children. Renal replacement therapy in children.**

Differential diagnosis of hematuria in children. Diagnostic clues. Management.

**Thematic chapter 5.**

**Dispensary supervision of healthy and sick children in the polyclinic.**

**Topic 22. Differential diagnosis of lymphoproliferative syndrome in children.**

Laboratory evaluation in lymphadenopathy, splenomegaly. Gastrointestinal presentation and involvement of mediastinum. Immune deficiency syndromes as a background of lymphoproliferative syndrome in children. X-linked lymphoproliferative disorders, autoimmune lymphoproliferative syndrome, primary immune



deficiencies, posttransplant lymphoproliferative disorder. Differential diagnosis in pediatric non-Hodgkin lymphoma.

**Topic 23. Medical supervision of children in the first three years of life in the polyclinic setting. Immune prophylaxis of infectious disease in pediatric practice.**

Procedure for obligatory preventive examinations of children under three years old. Efficient feeding and nutrition of the child under three years old. Evaluation of physical and psycho-motor development of children up to three years. Tactics of the general practitioner in violation of physical and neuropsychological development of children during the first three years of life. Principles of effective counseling. Differential diagnosis and prevention of the most common deficient states (rickets, iron deficiency) in infants. Prophylactic vaccination of children up to three years.

**Topic 24. Integrated management of childhood illnesses.**

The strategy of integrated management of childhood illness and its purpose. Common signs of danger for the child. Evaluation, classification, treatment, consultation and follow-up for coughing, difficulty in breathing, diarrhea, problems with the ear, sore throat, fever, malnutrition and anemia, the presence of HIV infection in children from 2 months to 5 years. Evaluation, classification, treatment, consultation, and follow-up of children under the age of 2 months with jaundice, diarrhea, feeding problems and low birth weight, very severe illnesses, and local bacterial infection.

**Topic 25. Differential diagnosis of the most common hematological diseases in children.**

Leading clinical symptoms and syndromes of hematological diseases (anemia, thrombocytopenia and thrombocytopathy, coagulopathy). Data from laboratory and instrumental studies. Clinical variants of course and complications. Management.

**Topic 26. Differential diagnosis, contemporary approaches to the prevention and treatment of hypovitaminosis and iron deficiency anemia in children**

Leading clinical symptoms and vitamin insufficiency syndromes in children. Scarce anemia. Diagnosis, treatment, prevention.

**Topic 27. Growth disorders in children. Timely diagnosis, differential diagnosis, prevention and treatment.**

Leading clinical symptoms and syndromes for growth disorders in children (nanism, gigantism, acromegaly). Data from laboratory and instrumental research. Clinical variants of the course. Children's tactics in growth pathology. Prevention of growth disorders in children.

**Topic 28. Differential diagnosis and prevention of the most common endocrine diseases in children.**

Leading clinical symptoms and syndromes of the most common diseases of the endocrine system in children. Diagnosis, differential diagnosis, treatment, prevention.

**Topic 29. Resuscitation of a newborn**

Basic principles of newborn resuscitation. Indications for resuscitation. Anticipation of resuscitation need. Step-by-step approach in resuscitation.

**Topic 30. Asphyxia of newborns and perinatal CNS lesions: prevention, differential diagnosis and principles of treatment.**

Differential diagnosis of asphyxia and perinatal CNS lesions in newborns. Diagnostic algorithm. Management.

**3. STRUCTURE OF THE EDUCATIONAL DISCIPLINE PEDIATRICS**

Topic	Lectures	Workshops	Self-education
<b>Thematic chapter 1. Differential diagnosis of the most common respiratory tract diseases in childhood. Emergency care</b>			
Topic 1. Differential diagnosis of pneumonia in children. Prevention of complications of pneumonia. Acute respiratory disease COVID-19 in children: presentation, diagnosis, prevention of the infection.		6	3
Topic 2. Differential diagnosis of bronchial obstruction in children.		6	3
Topic 3. Differential diagnosis and prevention of pulmonary diseases in newborns.			3
Topic 4. Primary and secondary prevention of allergic pathology.		6	3

Topic 5. Differential diagnosis of hereditary, congenital, and chronic broncho-pulmonary disease in children.			3
Topic 6. Current aspects in antibiotic therapy in children.			3
<b>Thematic chapter 2. Differential diagnosis of the most common diseases of the circulatory system, systemic connective tissue diseases in children. Emergency care</b>			
Topic 7. Differential diagnosis of congenital heart diseases in children. Early diagnosis and treatment.		6	3
Topic 8. Differential diagnosis of inflammatory and non-inflammatory heart disease in children.		6	3
Topic 9. Heart failure in children. Medicines used in pediatric cardiology.			3
Topic 10. Differential diagnosis of abnormal cardiac rhythm and conduction in children by ECG tracing.			3
Topic 11. Differential diagnosis of systemic connective tissue disease and systemic vasculitis in children.		6	3
Topic 12. Kawasaki disease in children: causes, symptoms, diagnosis and treatment.			3
<b>Thematic chapter 3. Differential diagnosis of the most common disease of the digestive tract in children. Emergency care in common emergency conditions.</b>			
Topic 13. Differential diagnosis of functional and organic diseases of the digestive system in children. Differential diagnosis of abdominal pain in children.		6	3
Topic 14. Differential diagnosis of the hepatic, biliary system, and pancreas in children. Syndrome of portal hypertension.		6	3
Topic 15. Gastric bleeding in children: principles of diagnosis, treatment and prevention.			3
Topic 16. Differential diagnosis of malabsorption syndrome in children.			3
Topic 17. Diagnosis, differential diagnosis and prevention of hepatitis in children.			3
<b>Thematic chapter 4. Differential diagnosis of the most common diseases of the urinary tract in children. Emergency care in common emergency conditions.</b>			
Topic 18. Differential diagnosis of infectious and inflammatory disease of the urinary system in children.		6	3
Topic 19. Differential diagnosis and treatment of glomerulonephritis in children. Prevention of acute and chronic renal failure in children. Management. Differential approaches to treatment.		6	3
Topic 20. Differential diagnosis of hereditary disease of the urinary system in children.		6	3
Topic 21. Illnesses accompanied by hematuria and proteinuria in children. Renal replacement therapy in children.			3
<b>Thematic chapter 5. Dispensary supervision of healthy and sick children in the polyclinic.</b>			
Topic 22. Differential diagnosis of lymphoproliferative syndrome in children.		6	3
Topic 23. Medical supervision of children in the first three years of life in the polyclinic setting. Immune prophylaxis of infectious disease in pediatric practice.		6	3
Topic 24. Integrated management of childhood illnesses.			3
Topic 25. Differential diagnosis of the most common hematological diseases in children.			3
Topic 26. Differential diagnosis, contemporary approaches to the prevention and treatment of hypovitaminosis and iron deficiency anemia in children			3

Topic 27. Growth disorders in children. Timely diagnosis, differential diagnosis, prevention and treatment.			3
Topic 28. Differential diagnosis and prevention of the most common endocrine diseases in children.		6	3
Topic 29. Resuscitation of a newborn		6	3
Topic 30. Asphyxia of newborns and perinatal CNS lesions: prevention, differential diagnosis and principles of treatment.			3
<b>Final control</b>	<b>Credit</b>		
Total credits in ECTS – 6.0; hours – 180; Classroom work 50%, self-work 50%		<b>90</b>	<b>90</b>

**4. The thematic plan of lectures** - the curriculum of lectures is not provided (Order No. 1053 -S of 24.03.2023).

#### 5. Thematic plan of workshops

	Topic	Hours
1	Differential diagnosis of pneumonia in children. Prevention of complications of pneumonia. Acute respiratory disease COVID-19 in children: presentation, diagnosis, prevention of the infection.	6
2	Differential diagnosis of bronchial obstruction in children.	6
3	Primary and secondary prevention of allergic pathology.	6
4	Differential diagnosis of congenital heart diseases in children. Early diagnosis and treatment.	6
5	Differential diagnosis of inflammatory and non-inflammatory heart disease in children.	6
6	Differential diagnosis of systemic connective tissue disease and systemic vasculitis in children.	6
7	Differential diagnosis of functional and organic diseases of the digestive system in children. Differential diagnosis of abdominal pain in children.	6
8	Differential diagnosis of the hepatic, biliary system, and pancreas in children. Syndrome of portal hypertension.	6
9	Differential diagnosis of infectious and inflammatory disease of the urinary system in children.	6
10	Differential diagnosis and treatment of glomerulonephritis in children. Prevention of acute and chronic renal failure in children. Management. Differential approaches to treatment.	6
11	Differential diagnosis of hereditary disease of the urinary system in children.	6
12	Differential diagnosis of lymphoproliferative syndrome in children.	6
13	Medical supervision of children in the first three years of life in the polyclinic setting. Immune prophylaxis of infectious disease in pediatric practice.	6
14	Differential diagnosis and prevention of the most common endocrine diseases in children.	6
15	Resuscitation of a newborn	6
	<b>Total</b>	<b>90</b>

**Independent work of a student** - one of organizational forms of learning, regulated by the working curriculum and performed by the student independently outside the classroom. Possible types of independent work (self-work): preparation for workshops and study topics listed in self-learning schedule and study of additional literature, algorithms, structure, logic, writing cases, synopses, literature reviews. Organization of independent work in pediatric hospital departments must be ensured by teachers.

## 6. THEMATIC PLAN OF INDEPENDENT WORK (Preventive Medicine)

No	Topic	Hours	Type of assessment
1	Differential diagnosis and prevention of pulmonary diseases in newborns.	3	On-going assessment during Workshops and before the final class
2	Differential diagnosis of hereditary, congenital, and chronic broncho-pulmonary disease in children.	3	
3	Current aspects in antibiotic therapy in children.	3	
4	Heart failure in children. Medicines used in pediatric cardiology.	3	
5	Differential diagnosis of abnormal cardiac rhythm and conduction in children by ECG tracing.	3	
6	Kawasaki disease in children: causes, symptoms, diagnosis and treatment.	3	
7	Gastric bleeding in children: principles of diagnosis, treatment and prevention.	3	
8	Differential diagnosis of malabsorption syndrome in children.	3	
9	Diagnosis, differential diagnosis and prevention of hepatitis in children.	3	
10	Illnesses accompanied by hematuria and proteinuria in children. Renal replacement therapy in children.	3	
11	Integrated management of childhood illnesses.	3	
12	Differential diagnosis of the most common hematological diseases in children.	3	
13	Differential diagnosis, contemporary approaches to the prevention and treatment of hypovitaminosis and iron deficiency anemia in children	3	
14	Growth disorders in children. Timely diagnosis, differential diagnosis, prevention and treatment.	3	
15	Asphyxia of newborns and perinatal CNS lesions: prevention, differential diagnosis and principles of treatment.	3	
16	Preparation to workshops	45	
<b>Total</b>		<b>90</b>	

### 7. Individual assignment

Not planned in this working program for academic year (order № 1053-z of 24.03.2023)

### 8. Methods of teaching

Workshops are clinically oriented and directed to control theoretical material and development of practical skills and ability to analyze and apply knowledge to solve practical problems. Workshops mostly held in the children's departments of clinical facilities of the department.

- Each session begins with test control conducted to assess initial knowledge and determine the degree of readiness of students to workshop.
- The teacher identifies the purpose of lesson and creates a positive cognitive motivation; answers the students' questions that arose during learning of individual work.
- During the main stage, students personally examine their own pre-selected sick children, take medical history, examine children, and perform diagnostic manipulation and more. After that, the teacher performs clinical round, when students report about their patients and about the results of their independent work.
- Control of the main stage of the workshop conducts via evaluation of student practical skills, ability to solve typical case studies. The teacher discusses and gives an explanation highlights the features of the disease in the individual child, focuses on more efficient conduct of examination methods.
- On the final stage, to assess the level of mastering the topic, teacher offers to solve the case studies. The teacher sums up the lesson gives students tasks for independent work, points to key questions following topics and offers a list of recommended books for independent reading.

- During the workshop, the following educational technologies, modes of transmission and assimilation of knowledge and skills are used:
  - practical workshop
  - simulation technology
  - clinical practice session
  - interactive educational games
  - case methods
  - multimedia presentations
  - educational video.

## 9. Methods of control

Types of monitoring and evaluation system implemented to comply with the discipline and instruction of the system of evaluation of educational activity of students in credit-transfer process, approved by Ministry of Health (reference MOH of Ukraine № 08.01-47/10395 of 15.04.2014)

When assessing students' knowledge, preference is given to standardized methods of control: testing (writing), structured written work, standardized control of practical skills, work with standard medical records.

- **Types of control** - current
- **Form of final control** - credit
- **Evaluation criteria** (current control, final control).

**10. Current control** is carried out during training sessions and aims to verify the assimilation of students' learning material.

Forms of current control:

- Test tasks (from the base "Step-2")
- Assessment of practical skills
- Complex situational tasks

10.1 Evaluation of current educational activities.

During the assessment of mastering each topic for the current educational activity of the student, grades are set on a 4-point (traditional) scale, taking into account the approved assessment criteria for the discipline. This takes into account all types of work provided by the curriculum. The student must receive a grade on each topic. The student must receive a grade from each topic for further conversion of grades into scores on a multi-point (200-point) scale.

Forms of assessment of current educational activities are standardized and include control of theoretical and practical training.

Current control is carried out at each practical lesson according to the specific objectives of each topic. Traditional grades are displayed in the student's journal during practical classes. Practical classes during the study of the module "Pediatrics" are structured and provide a comprehensive assessment of all types of educational activities (learning tasks) that students perform during the practical lesson:

- The student answers 10 tests (tests on the topic of the lesson, format A). Correct answer to 10-9 tests = 5 points; 8-7 points = 4 points; 6-5 tests = 3 points; 4 or less tests = 0 points.
- Answers standardized questions, knowledge of which is necessary to understand the current topic.
- Demonstrates knowledge and skills of practical skills in accordance with the topic of the practical lesson
- Solves a situational problem on the topic of the lesson

### Criteria of marks of current educational activity.

**Excellent («5»)** – student answers correctly 90-100% MCQ tests (from database «Step-2»).

Correctly, accurately, and logically answers all the standardized questions of the current topic.

Closely links theory with practical knowledge and properly demonstrates practical skills. Analyzes the results of the lab/instrumental investigations without problems and has proper methods of examination of the patient. Performs differential diagnosis. Solves situational tasks with elevated level of difficulty and knows how to compile the material.

**Good («4»)** – student correctly answers 70-89% MCQ tests (from database «Step-2»). Correctly answers all the standardized questions of the current topic. Demonstrates knowledge of practical skills. Correctly uses theoretical knowledge to solve practical tasks, Differential diagnosis.

Knows how to solve easy and of medium difficult situational tasks. Contains the necessary practical knowledge and techniques and their uses, in excess of the required minimum.

**Satisfactory («3»)** - student correctly answers 50-69% MCQ tests (from database «Step-2»).

Incomplete, with the help of additional questions answers all the standardized questions on the current topic. Cannot independently form a clear logical answer. While the students is answering and demonstrating practical knowledge, he/she makes mistakes. Can solve only the easiest situational tasks. Has knowledge of only the minimum methods of investigations.

**Unsatisfactory («2»)** – student correctly answers 50% of MCQ tests (from database «Step-2»).

Doesn't know the material of the current topic, cannot formulate a logical answer, cannot answer additional questions, doesn't understand the content of the topic. While the student is answering and demonstrating practical skills, makes significant mistakes.

**Evaluation of independent work** students in preparation for classroom workshops carried out during the current control topics at the classroom.

## 11. Forms of final control of learning success

Form of the final control - **credit**

It consists of assessing the assimilation of students' learning material solely on the basis of the results of their implementation of the academic plan in the discipline of "Pediatrics".

Control methods are standardized and include control of theoretical and practical training.

Students are admitted to the semester final control:

- who have performed all types of work, tasks provided for in the curriculum for the semester in accordance with the discipline;
- attended all classes provided by the curriculum;
- worked out missed classes;
- scored the number of points for the current success, not less than the minimum.

For students who have missed classes, classes are allowed with the permission of the dean to work off academic debt until a certain date within the semester.

The credit is granted after the end of the discipline (during the last lesson).

The credit is granted by teachers who conducted practical and other classes in the study group.

Students receive credit if the average score on the current performance during the semester is at least "3" (120 points on a 200-point scale).

The entry is made in the student's record book and credit-examination chart.

11. Scheme of accrual and distribution of points received by students:

*For disciplines to which the form of the final control is the credit:*

**The maximum number of points** that a student can obtain for current educational activity at the study course is 200 points.

**The minimum number of points** that a student must collect for current educational activity for enrollment course is 120 points.

**Calculation the number of points** received is based on the traditional student ratings scale in the study disciplines during the semester, by calculating the arithmetic mean (AM), rounded to two decimal places. The resulting value is converted into points by multi-score scale as follows:

$$x = \frac{CA \times 200}{5}$$

4- бальна шкала	200- бальна шкала	4- бальна шкала	200- бальна шкала	4- бальна шкала	200- бальна шкала	4- бальна шкала	200- бальна шкала
5	200	4.45	178	3.92	157	3.37	135
4.97	199	4.42	177	3.89	156	3.35	134
4.95	198	4.4	176	3.87	155	3.32	133
4.92	197	4.37	175	3.84	154	3.3	132
4.9	196	4.35	174	3.82	153	3.27	131
4.87	195	4.32	173	3.79	152	3.25	130
4.85	194	4.3	172	3.77	151	3.22	129
4.82	193	4.27	171	3.74	150	3.2	128
4.8	192	4.24	170	3.72	149	3.17	127
4.77	191	4.22	169	3.7	148	3.15	126
4.75	190	4.19	168	3.67	147	3.12	125
4.72	189	4.17	167	3.65	146	3.1	124
4.7	188	4.14	166	3.62	145	3.07	123
4.67	187	4.12	165	3.57	143	3.02	121
4.65	186	4.09	164	3.55	142	3	120
4.62	185	4.07	163	3.52	141	Менше 3	Недос- татньо
4.6	184	4.04	162	3.5	140		
4.57	183	4.02	161	3.47	139		
4.52	181	3.99	160	3.45	138		
4.5	180	3.97	159	3.42	137		
4.47	179	3.94	158	3.4	136		

Scores for discipline are converted regardless of discipline both in scale ECTS, and 4-point scale. Score scale ECTS 4-point scale not converted and vice versa.

The scores of students studying in one specialty, taking into account the number of scores earned in the discipline are ranked on the ECTS scale as follows:

Score ECTS	Statistical range
A	The best 10% students
B	Next 25% students
C	Next 30% students
D	Next 25% students
E	Next 10% students

Ranking on the assignment of grades "A", "B", "C", "D", "E" is conducted for students of this course who are studying in one specialty and have successfully completed the discipline. Students who receive an FX, F ("2") grade are not included in the list of ranked students. Students with an FX grade automatically receive an "E" after resumption.

Discipline scores for students who have successfully completed the program are converted into a traditional 4-point scale according to the absolute criteria listed below:

Scores in 200 scale	Score according to the four-point scale
From 170 to 200	5
From 140 to 169	4
From 139 to minimum number of points, which the student should acquire in the discipline	3
Lower than the minimum number of points that the student should attain in the discipline	2

### 13. Methodological aid

- Work program of discipline
- Lectures, practical classes and independent work of students

- Guidelines to practical training for students
- Instructions for teachers training
- Methodical materials, which ensure independent work of student
- Tests and control cases for practical classes
- Situational cases for practical classes
- The list of questions submitted to the final control
- The list of standardized methods for performing practical skills

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