

# COURSE PROGRAM

## SYLLABUS

### 1. General information on the course

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| <b>Full course name</b>                                     | Pediatrics   |
| <b>Full official name of a higher education institution</b> | Sumy State University  |
| <b>Full name of a structural unit</b>                       | Academic and Research Medical Institute.<br>Кафедра педіатрії  |
| <b>Author(s)</b>  | Redko Olena Kostiantynivna   |
| <b>Cycle/higher education level</b>                         | The Second Level Of Higher Education, National Qualifications Framework Of Ukraine – The 7th Level, QF-LLL – The 7th Level, FQ-EHEA – The Second Cycle |
| <b>Duration</b>   | one semester   |
| <b>Workload</b>   | 7 ECTS, 210 hours. For full-time course 130 hours are working hours with the lecturer (130 hours of seminars), 80 hours of the individual study.       |
| <b>Language(s)</b>  | English  |

### 2. Place in the study programme

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| <b>Relation to curriculum</b>  | Compulsory course available for study programme "Medicine"  |
| <b>Prerequisites</b>           | Krok-1, necessary knowledge of: Latin and medical terminology, - medical biology, - medical informatics, - human anatomy, - physiology, - histology, cytology and embryology, - pediatrics, pediatric infectious diseases, infectious biological and bioorganic chemistry, - microbiology, virology and immunology, - pathomorphology, - pathophysiology, - pharmacology, - hygiene and ecology, - propaedeutics of pediatrics, - nursing practice, - radiology, obstetrics, gynecology, pediatric surgery. |
| <b>Additional requirements</b> | There are no specific requirements  |
| <b>Restrictions</b>            | There are no specific restrictions  |

### 3. Aims of the course

The purpose of the discipline is to achieve students' modern knowledge and professional skills of

differential diagnosis in pediatrics based on knowledge of anatomical and physiological features of the child's body, care for healthy and sick children of different ages, knowledge of pediatrics and pediatric surgery, skills of clinical, laboratory and instrumental examination of the child in compliance with the principles of medical ethics and deontology.

#### 4. Contents

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| <p><b>Module 1. Module 1. Differential diagnosis of the most common diseases of the respiratory system, circulatory system, connective tissue and vasculitis in children. Emergency care for major emergencies.</b></p>   |
| <p>Topic 1 Differential diagnosis of pneumonia in children. Complications of pneumonia. Emergency care for acute respiratory failure in children.</p> <p>Leading clinical symptoms and syndromes in various clinical variants and complications of pneumonia in children. Data of laboratory and instrumental studies in various clinical variants of pneumonia and its complications (pleurisy, abscess, pyothorax, pneumothorax). Differential diagnosis of pneumonia, bronchitis and bronchiolitis in children. Establishing a preliminary diagnosis.</p>  |
| <p>Topic 2 Differential diagnosis of pneumonia in children. Complications of pneumonia. Emergency care for acute respiratory failure in children</p> <p>Patient management tactics for various clinical variants of the course of pneumonia and its complications. Emergency care for acute respiratory failure depending on the cause and degree of severity. Prevention of pneumonia and its complications in children.</p>   |
| <p>Topic 3 Differential diagnosis of bronchial obstruction syndrome in children. Emergency care for status asthmaticus</p> <p>Leading clinical symptoms and syndromes in bronchial asthma, bronchiolitis and acute obstructive bronchitis in children. Peculiarities of the course of bronchial asthma in children depending on the degree of severity and level of control. Data of laboratory and instrumental studies in bronchial asthma, bronchiolitis and acute obstructive bronchitis and their complications. Differential diagnosis of bronchial asthma and bronchial obstruction syndrome against the background of acute respiratory diseases in children of different ages. Establishing a preliminary diagnosis.</p> |
| <p>Topic 4 Differential diagnosis of bronchial obstruction syndrome in children. Emergency care for status asthmaticus</p> <p>Patient management tactics for various clinical variants of the course of broncho-obstructive syndrome and its complications in children. Providing emergency care for asthma attack and status asthmaticus. Prevention of bronchial asthma and bronchial obstruction syndrome against the background of acute respiratory diseases in children of different ages.</p>  |
| <p>Topic 5 Differential diagnosis of hereditary, congenital and chronic diseases of the bronchopulmonary system in children</p> <p>Leading clinical symptoms and syndromes in chronic bronchitis, bronchiectasis, hereditary and congenital diseases of the bronchopulmonary system (cystic fibrosis, idiopathic pulmonary hemosiderosis, primary ciliary dyskinesia, Wilms-Campbell syndrome, bronchomalacia, lung aplasia and hypoplasia, surfactant deficiency).</p>   |

Topic 6 Treatment of hereditary, congenital and chronic diseases of the bronchopulmonary system in children

Basic principles of treatment and rehabilitation of chronic bronchitis, bronchiectasis, hereditary and congenital diseases of the bronchopulmonary system (cystic fibrosis, idiopathic hemosiderosis of the lungs, primary ciliary dyskinesia, Wilms-Campbell syndromes, bronchomalacia, lung aplasia and hypoplasia, surfactant deficiency)

Topic 7 Differential diagnosis of cardiomegaly in children. Emergency care for acute heart failure.

Leading clinical symptoms and syndromes of diseases of the circulatory system in children accompanied by cardiomegaly. Clinical variants of the course and complications of myocarditis, endocarditis, pericarditis, cardiomyopathies, congenital and acquired heart defects in children. Data of laboratory and instrumental studies in myocarditis, endocarditis, pericarditis, cardiomyopathies, congenital and acquired heart defects in children.

Topic 8 Differential diagnosis of cardiomegaly in children. Emergency care for acute heart failure

Differential diagnosis of inflammatory and non-inflammatory diseases of the circulatory system in children accompanied by cardiomegaly. Patient management tactics for myocarditis, endocarditis, pericarditis, cardiomyopathies, congenital and acquired heart defects in children

Topic 9 Providing emergency care for acute heart failure. Treatment and prevention of chronic heart failure.

Treatment of the most common diseases of the circulatory system in children. Providing emergency care for acute heart failure. Treatment and prevention of chronic heart failure.

Topic 10 Differential diagnosis of heart rhythm and conduction disorders in children

Leading clinical symptoms and syndromes in extrasystole, paroxysmal tachycardia, atrial fibrillation, complete atrioventricular block. Clinical variants of the course of paroxysmal tachycardia and atrial fibrillation in children. Data of instrumental studies in extrasystole, paroxysmal tachycardia, atrial fibrillation, complete atrioventricular blockade. Differential diagnosis of extrasystole, paroxysmal tachycardia, atrial fibrillation and complete atrio-ventricular block.

Topic 11 Emergency care for paroxysmal rhythm disturbances and Morgana-Adams-Stokes syndrome

Patient management tactics for extrasystole, paroxysmal tachycardia, atrial fibrillation, complete atrioventricular block in children. Providing emergency care for paroxysmal tachycardia, atrial fibrillation, Morgana-Adams-Stokes syndrome in children. Prevention of heart rhythm and conduction disorders in children.

Topic 12 Differential diagnosis of systemic connective tissue diseases 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. Data of laboratory and instrumental studies in systemic connective tissue diseases and systemic vasculitis in children.

Topic 13 Differential diagnosis of systemic connective tissue diseases and systemic vasculitis in children.

Differential diagnosis of systemic connective tissue diseases in children. Differential diagnosis of arthritis in children. Tactics of managing patients with systemic connective tissue diseases and systemic vasculitis in children. Primary and secondary prevention of acute rheumatic fever in children.

**Module 2. Module 2. Differential diagnosis of the most common diseases of the digestive organs in children. Differential diagnosis of the most common diseases of the urinary system in children. Emergency care for major emergencies.**

Topic 14 Differential diagnosis of functional and organic diseases of the stomach and intestines in children.

Leading clinical symptoms and syndromes in functional and organic diseases of the stomach and intestines in children (functional dyspepsia, irritable bowel syndrome, functional constipation, reflux disease, gastritis, peptic ulcer disease of the stomach and duodenum, disaccharidase deficiency, exudative enteropathy, celiac disease, cystic fibrosis, Crohn's disease , nonspecific ulcerative colitis.

Topic 15 Clinical - instrumental studies and differential diagnosis of diseases of the digestive organs in children.

Clinico-instrumental studies and differential diagnosis of dyspeptic, abdominal pain syndrome, and intestinal malabsorption syndrome in children. Clinical variants of the course of peptic ulcer disease of the stomach and duodenum, non-specific ulcerative colitis.

Topic 16 Tactics of managing children with functional and organic diseases of the stomach and intestines.

Tactics of managing children with functional and organic diseases of the stomach and intestines. Diagnosis of the complicated course of peptic ulcer of the stomach and duodenum in children, tactics of a general practitioner, provision of emergency care. Prevention of functional and organic intestinal diseases in children

Topic 17 Differential diagnosis of diseases of the hepatobiliary system and pancreas in children. Portal hypertension syndrome.

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. Data 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. Patient management tactics for biliary dyskinesia, acute and chronic cholecystitis, acute and chronic pancreatitis, and chronic hepatitis in children.

Topic 18 Providing emergency care for acute liver failure and complications of portal hypertension syndrome.

Providing emergency care for acute liver 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 19 Differential diagnosis of infectious and inflammatory diseases of the urinary system in children. Differential diagnosis of hereditary diseases of the urinary system in children

Leading clinical symptoms and syndromes in infectious-inflammatory diseases of the urinary system (infections of the urinary system, urethritis, cystitis, pyelonephritis), dysmetabolic nephropathies, hereditary tubulopathies (phosphate-diabetes, Debr?-de-Tony-Fanconi syndrome, renal diabetes insipidus, renal tubular acidosis) and interstitial nephritis in children. Clinical variants of the course and complications of infectious and inflammatory diseases of the urinary system, interstitial nephritis, dysmetabolic nephropathies and hereditary tubulopathies in children. Data of laboratory and instrumental studies in the most common infectious and inflammatory diseases of the urinary system, interstitial nephritis, dysmetabolic nephropathies and hereditary tubulopathies in children.

Topic 20 Differential diagnosis of infectious and inflammatory diseases of the urinary system in children. Differential diagnosis of hereditary diseases of the urinary system in children

Differential diagnosis of the most common infectious and inflammatory diseases of the urinary system, interstitial nephritis, dysmetabolic nephropathies and hereditary tubulopathies in children. Tactics of managing a sick child with the most common infectious and inflammatory diseases of the urinary system and their complications, with interstitial nephritis, with dysmetabolic nephropathies and hereditary tubulopathies in children. Emergency aid for acute urinary retention. Prevention of urethritis, cystitis, pyelonephritis.

Topic 21 Differential diagnosis of glomerulonephritis in children.

Clinical and morphological variants of primary glomerulonephritis in children. Differential diagnosis of acute poststreptococcal glomerulonephritis with Alport's hereditary nephritis, rapidly progressive glomerulonephritis, Berger's disease, etc.

Topic 22 Nephrotic syndrome in children

Nephrotic syndrome in children: differential diagnosis, complications. Clinical variants of the course of chronic glomerulonephritis in children. Indications for kidney biopsy in children.

Topic 23 Chronic kidney disease

Diagnosis, differential diagnosis, management tactics of patients with chronic kidney disease

Topic 24 Treatment of acute and chronic glomerulonephritis.

Tactics of managing a sick child with acute and chronic glomerulonephritis.

Topic 25 Acute renal failure

Acute kidney damage (acute renal failure) in children: etiology, pathogenesis, clinical and laboratory symptoms, differential diagnosis, emergency care, tactics of managing sick children.

**Module 3. Module 3. Differential diagnosis of the most common diseases of the endocrine system in children. Differential diagnosis of the most common blood diseases in children. Immediate assistance in the main critical conditions.**

Topic 26 Diabetes in children. Differential diagnosis of hyperglycemia.

Патогенетичні механізми розвитку цукрового діабету I та II типу. Критерії діагнозу цукрового діабету у дітей. Клініка, диференційна діагностика, лікування, профілактика, прогноз цукрового діабету у дітей, згідно доказової медицини. Інсулінотерапія.

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| <p>Topic 27 Acute complications of diabetes</p> <p>Ketoacidotic and hypoglycemic coma, hyperosmolar nonacidotic, lactic acidotic coma: differential diagnosis, emergency care and prevention. Forecast.</p>  |
| <p>Topic 28 Late complications of diabetes in children</p> <p>Late complications of diabetes in children. The study of this topic involves theoretical work in the classroom, interpretation of the obtained data of laboratory tests, endoscopic examination, x-ray and ultrasound examination of the urinary organs in the departments of the medical institution (according to the agreement on cooperation between the medical institution and the university). Work at the patient's bedside. When studying the topic, the method of case-based learning (CBL) can be used.</p> |
| <p>Topic 29 Differential diagnosis of thyroid diseases in children</p> <p>Etiopathogenesis, classification, clinical manifestations and laboratory-instrumental manifestations of thyroid gland diseases in children. Differential diagnosis.</p>  |
| <p>Topic 30 Treatment and prevention of thyroid diseases</p> <p>Treatment, prevention of diffuse toxic goiter, hypothyroidism, congenital hypothyroidism, autoimmune thyroiditis, endemic goiter in children. Goiter degrees. Emergency care for thyrotoxic crisis in children. Forecast.</p>  |
| <p>Topic 31 Diseases of the hypothalamic-pituitary system and gonads in children</p> <p>Etiology, pathogenesis, classification, clinic, diagnosis, differential diagnosis, treatment, prevention, prognosis of pathology of growth and pathology of gonads in children.</p>  |
| <p>Topic 32 Differential diagnosis of adrenal gland diseases in children.</p> <p>Differential diagnosis of adrenal gland diseases in children. Acute and chronic adrenal insufficiency in children. Features of the clinic, diagnostics. Difdiagnosis. Adrenogenital syndrome. Addison's crisis.</p>   |
| <p>Topic 33 Differential diagnosis of deficiency anemia in children.</p> <p>Etiopathogenesis. Classification. Peculiarities of clinical manifestations, diagnosis and differential diagnosis of deficiency anemia in children. Iron deficiency anemia. Principles of treatment, treatment of chronic bleeding</p>  |
| <p>Topic 34 Differential diagnosis and principles of treatment of hemoblastosis in children.</p> <p>Theories of the origin of leukemias and lymphomas in children. Pathogenesis. Diagnostics. Differential diagnosis with other diseases of the blood system and diseases that overlap with hyperplastic syndrome. Treatment.</p>  |
| <p>Topic 35 Differential diagnosis of diseases with hemorrhagic syndrome in children</p> <p>DIC-syndrome, hemorrhagic vasculitis. Etiology, pathogenesis, clinical and laboratory-instrumental studies. Treatment. Help with bleeding</p>  |
| <p>Topic 36 Hemophilia, thrombocytopenia in children.</p> <p>Differential diagnosis of hemophilia and pathologies of the platelet coagulation link. Principles of treatment</p>  |

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| <p>Topic 37 Treatment of major hemorrhagic conditions</p> <p>Emergency care for bleeding and hemorrhagic conditions that require treatment. Forecast.</p>  |
| <p>Topic 38 Acute and chronic bleeding in children</p> <p>Providing emergency care for acute bleeding of varying severity. Diagnosis and treatment of chronic bleeding in children</p>   |
| <p><b>Module 4. Module 4. Differential diagnosis of newborn diseases. Assistance in emergency situations</b></p>   |
| <p>Topic 39 Helping a newborn in the delivery room. Primary resuscitation of newborns</p> <p>Features of primary care for a newborn in the delivery room depending on gestational age and condition. Resuscitation measures. Indications for ABC steps of primary resuscitation of a newborn.</p>  |
| <p>Topic 40 Premature babies and babies born with low body weight</p> <p>Premature newborns. Intrauterine growth retardation (UGD). Differential diagnosis. Peculiarities of the development and course of pathological conditions.</p>  |
| <p>Topic 41 Asphyxia of a newborn</p> <p>Asphyxia of newborns. Criteria of multiple organ failure in asphyxia of newborns. Laboratory diagnosis of newborn asphyxia. Differential diagnosis of newborn asphyxia. Emergence of asphyxiated newborns</p>   |
| <p>Topic 42 Birth trauma</p> <p>Classification, causes, clinical manifestations, diagnosis and differential diagnosis of childbirth injuries of soft tissues, bones, internal organs and tactics of their treatment</p>  |
| <p>Topic 43 Birth trauma</p> <p>Classification, causes, clinical manifestations, diagnosis and differential diagnosis of intracranial birth injuries and peripheral nervous system injuries. Treatment of birth defects of the brain and peripheral nervous system</p>   |
| <p>Topic 44 Perinatal lesions of the central nervous system of hypoxic and hemorrhagic origin, perinatal encephalopathies</p> <p>CNS suppression and excitation syndromes, cerebral edema, convulsive syndrome, periventricular and intraventricular hemorrhages. Principles of treatment. Emergency aid.</p>                                      |
| <p>Topic 45 Respiratory diseases in newborns. Differential diagnosis of the syndrome of respiratory disorders in newborns</p> <p>Classification and typical clinical picture of infectious and non-infectious respiratory diseases in newborns (neonatal pneumonia, RDS). Differential diagnosis of the most common lung diseases in newborns.</p> |
| <p>Topic 46 Principles of treatment of respiratory disorders in newborns</p> <p>Principles of treatment (depending on the severity of DR), rehabilitation and prevention of respiratory diseases in newborns. Emergency care for basic emergencies in newborns with respiratory diseases.</p>  |

Topic 47 Differential diagnosis of jaundice in newborns.

Neonatal jaundice: differential diagnosis of "physiological" and pathological jaundice. Differential diagnosis of various types of pathological jaundice. Management tactics of newborns with manifestations of jaundice and with complicated jaundice.

Topic 48 Hemolytic disease of the newborn.

Etiology, pathomechanisms of development, classification of hemolytic disease of the newborn. Clinical signs, laboratory diagnostics. Features of the course, complications, principles of treatment. Indications for blood exchange transfusion surgery.

Topic 49 Hemorrhagic disorders in newborns.

Differential diagnosis. Hemorrhagic disease of newborns Primary and secondary hemorrhagic disorders in newborns. Mechanism of development, differential diagnosis of hemorrhagic disease of newborns. Treatment, prevention.

Topic 50 Neonatal infections. Perinatal infections. Intrauterine infection, intrauterine infection. Perinatal infections.

Perinatal infections. Intrauterine TORCH - infections. Intrauterine infection. The most common VUI. Diagnosis, differential diagnosis. Treatment.

Topic 51 Local infection in newborns

Local infection: omphalitis, pyoderma, vesiculopustulosis, pemphigus of newborns. Diagnosis, differential diagnosis, treatment

Topic 52 Neonatal sepsis

Systemic infection. Generalized infection. Sepsis: bacteremia, septicemia, septicopyemia. Early, late neonatal sepsis. Diagnosis criteria. Peculiarities of clinical manifestations in newborns with different gestational ages. Treatment of neonatal sepsis.

Topic 53 Algorithm for assessing the condition of a newborn child with signs of an infectious disease immediately after birth

Examination methodology and algorithm for assessing the condition of a newborn child with signs of an infectious disease immediately after birth and signs of the subsequent course of the disease. Systematic medical review. Differential diagnosis. Treatment of infectious diseases in newborns. Forecast.

**Module 5. Module 5. Integrated management, differential diagnosis of diseases of children of different ages. Diagnosis of coma in children and emergency care for major emergencies.**

Topic 54 Differential diagnosis of the most common diseases of children of the 1st year

General signs of danger of the child's condition. Diagnosis of jaundice in children under the age of 2 months. Differential diagnosis of perinatal CNS lesions in infants. Sudden death syndrome.

Topic 55 Differential diagnosis of the most common deficiency conditions in children of the 1st year of life

Differential diagnosis of the most common deficiency conditions (hypotrophy, malabsorption, dehydration, rickets, iron deficiency anemia), allergic conditions in young children.



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| <p>Topic 56 Differential diagnosis of the most common diseases of children in the first five years of life.</p> <p>Assessment, differential diagnosis, treatment, consultation and follow-up for runny nose, cough in children of the first 5 years of life</p>   |
| <p>Topic 57 Observation and treatment of children of the first 5 years of life in outpatient settings</p> <p>Treatment, consultation and follow-up of difficult breathing, stenosing laryngotracheitis, croup. Emergency care for stenosing laryngotracheitis.</p>  |
| <p>Topic 58 Differential diagnosis of the most common diseases of children in the first five years of life</p> <p>Assessment, differential diagnosis, treatment, consultation and follow-up for ear problems, sore throat, fever, and HIV infection in children under 5 years of age</p>  |
| <p>Topic 59 Differential diagnosis of the most common diseases of children in the first five years of life</p> <p>Assessment, differential diagnosis of nutritional disorders (hypotrophy, obesity) in children of the first 5 years; treatment of protein-energy deficiency, depending on the degree, in hospital and outpatient conditions</p>  |
| <p>Topic 60 Differential diagnosis of the most common diseases of children in the first five years of life</p> <p>Causes, diagnosis and differential diagnosis of anemia in children. Outpatient monitoring and treatment of deficiency anemia in children. Iron deficiency anemia in children of the first years of life. Diarrhea in children. Observation and management in outpatient settings.</p> |
| <p>Topic 61 Differential diagnosis of the most common diseases of children in the first five years of life</p> <p>Assessment, differential diagnosis, treatment, consultation and follow-up in acetonemic syndrome</p>  |
| <p>Topic 62 Peculiarities of medical observation of adolescent children with somatic pathology.</p> <p>Peculiarities of medical monitoring of adolescent children with somatic pathology (pathology of the respiratory, digestive, circulatory, urinary, endocrine and hematopoietic systems). Child abuse syndrome.</p>  |
| <p>Topic 63 Differential diagnosis of arterial hypertension.</p> <p>Differential diagnosis, management tactics of a patient with arterial hypertension. Provision of emergency care for vegetative crises, hypertensive crisis. Prevention of vegetative dysfunctions and arterial hypertension in children.</p>  |
| <p>Topic 64 Differential diagnosis of coma in children.</p> <p>Diagnosis of comatose syndrome. Emergency care for insects of various origins in outpatient settings</p>   |

## Topic 65 Differential credit

Differential assessment consists of a written answer to 3 questions. In the case of quarantine restrictions or martial law restrictions, drawing up a diff. the assessment is conducted remotely using the Mix.sumdu.edu.ua, Zoom, Google meet platforms. Duration of credit - 2 academic hours.

### 5. Intended learning outcomes of the course

After successful study of the course, the student will be able to:

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| LO1  | To acquire the skills of interviewing and objective examination of children of different age groups.   |
| LO2  | Conduct differential diagnosis of childhood diseases, formulate a clinical diagnosis based on evaluation of examination results, laboratory and instrumental research methods, differential diagnosis. |
| LO3  | Formulate a clinical diagnosis on the basis of evaluating the results of laboratory and instrumental research methods.   |
| LO4  | Carry out differential diagnosis of childhood diseases, determine the main clinical syndrome and justify the severity of the disease   |
| LO5  | To carry out in practice the differential diagnosis of the main syndromes that occur in the clinic of emergency conditions in children   |
| LO6  | Apply in practice the algorithms of examination and management of sick children with emergencies, master the methods of treatment of emergencies in children   |
| LO7  | To be able to determine the necessary mode of study, work and rest of children during the treatment of diseases.   |
| LO8  | Determine the nature of children's nutrition during the treatment of diseases.   |
| LO9  | To be able to determine the tactics of providing emergency medical assistance to children and adults.  |
| LO10 | To be able to provide emergency medical aid under any circumstances in the conditions of hostilities and emergency .   |
| LO11 | To be able to perform medical manipulations in pediatric practice.   |
| LO12 | The ability to perform emergency medical care manipulations based on the diagnosis of an emergency .   |
| LO13 | To be able to carry out sanitary and hygienic and preventive measures for the development and spread of diseases.  |
| LO14 | To be able to work with professional literature, analyze and use the received information.   |
| LO15 | Assess the impact of the environment on the health of the population.  |

### 6. Role of the course in the achievement of programme learning outcomes

Programme learning outcomes achieved by the course.

For 222 Medicine:

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| PO1  | Identify the leading clinical symptoms and syndromes (according to list 1); 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 the most probable nosological or syndromic preliminary clinical diagnosis of the disease.  |
| PO2  | Collect information about the general condition of the patient, 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   |
| PO3  | Assign and analyze additional (mandatory and optional) examination methods (laboratory, radiological, functional and / or instrumental) according to list 4, patients with diseases of organs and systems of the body for differential diagnosis of diseases.  |
| PO4  | Establish a final clinical diagnosis by making an informed decision and logical 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 medical institution   |
| PO5  | Identify the main clinical syndrome or, due to the severity of the victim's condition, by making an informed decision and assessing the person's condition under any circumstances (at home, on the street, health care facility, its units), including in conditions of emergency and hostilities, in the field, in conditions of lack of information and limited time.   |
| PO6  | Determine the nature and principles of treatment of patients (conservative, operative) with diseases in a health care facility, at home 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, in case of need to expand the standard scheme to be able to justify personalized recommendations under the supervision of a physician-manager in a medical institution. |
| PO7  | Determine the necessary mode of work and rest in the treatment of patients with the disease in a health care facility, at the patient's home 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 according to existing algorithms and standard schemes.  |
| PO8  | Determine the necessary diet in the treatment of patients with the disease in a health care facility, at the patient's home 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 according to existing algorithms and standard schemes.  |
| PO11 | Determine the tactics of emergency medical care, under any circumstances, adhering to the relevant ethical and legal norms, by making an informed decision, based on the main clinical syndrome (severity of the condition) diagnosis of an emergency (list 3) for a limited time using standard schemes based on the principles of evidence-based medicine.   |

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| PO12 | Provide emergency medical care, under any circumstances, in compliance with the relevant ethical and legal norms, by making an informed decision, based on the main clinical syndrome (severity of the condition) diagnosis of an emergency (list 3) for a limited time, according to certain tactics, using standard schemes based on the principles of evidence-based medicine. |
| PO14 | Perform medical manipulations in a medical institution, at home or at work on the basis of 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.   |
| PO15 | Perform emergency medical care manipulations for a limited time, using standard schemes, under any circumstances based on an emergency diagnosis.   |
| PO16 | Plan and implement a system of sanitary and hygienic and preventive measures for the occurrence and spread of diseases among the population.  |
| PO18 | Search for the necessary information in the professional literature and databases of other sources, analyze, evaluate and apply this information. Apply modern digital technologies, specialized software, statistical methods of data analysis to solve complex health problems.   |
| PO19 | Assess the impact of the environment on public health.  |

## 7. Soft Skills

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| SS1 | Ability to abstract thinking, analysis and synthesis.   |
| SS2 | Ability to learn and master modern knowledge and apply it in practical situations   |
| SS3 | Ability to search, process and analyze information from various sources.  |
| SS4 | Determination and persistence in relation to assigned tasks and assumed responsibilities.   |
| SS5 | Ability to analyze, evaluate and objectively interpret information, make informed judgments and solve complex problems through logical reasoning and evidence-based decision-making (critical thinking) |
| SS6 | Ability to work in a team.  |
| SS7 | Ability to use information and communication technologies.  |

## 8. Teaching and learning activities

**Topic 1. Differential diagnosis of pneumonia in children. Complications of pneumonia. Emergency care for acute respiratory failure in children.**

pr.tr.1 ""Differential diagnosis of pneumonia in children."" (full-time course)

Leading clinical symptoms and syndromes in different clinical variants of pneumonia in children. Data from laboratory and instrumental studies in different clinical variants of pneumonia. Differential diagnosis of pneumonia, bronchitis and bronchiolitis in children. Establishing a preliminary diagnosis. Tactics of patient management in different clinical variants of pneumonia and its complications, prevention of pneumonia in children from the standpoint of evidence-based medicine. The study of this topic involves theoretical work in the classroom, application virtual simulation (watching movies with the main clinical manifestations of pneumonia in children) with further discussion. Role games. If possible, work at the patient's bedside profile departments of the medical institution (according to the agreement on cooperation between medical institution and university).

**Topic 2. Differential diagnosis of pneumonia in children. Complications of pneumonia. Emergency care for acute respiratory failure in children**

pr.tr.2 "Differential diagnosis of pneumonia in children. Complications of pneumonia. Emergency care for acute respiratory failure in children." (full-time course)

Tactics of patient management in different clinical variants of pneumonia complications, prevention of complications according to the position of evidence-based medicine.

**Topic 3. Differential diagnosis of bronchial obstruction syndrome in children. Emergency care for status asthmaticus**

pr.tr.3 ""Differential diagnosis of bronchial obstruction syndrome in children.Treatment of bronchoobstructive syndrome." (full-time course)" (full-time course)

Leading clinical symptoms and syndromes in bronchial asthma, bronchiolitis and acute obstructive bronchitis in children. Features of bronchial asthma in children depending on the severity and level of control. Data from laboratory and instrumental studies in bronchial asthma, bronchiolitis and acute obstructive bronchitis and their complications. Differential diagnosis of bronchial asthma and bronchial obstruction syndrome on the background of acute respiratory diseases in children of different ages. Establishing a preliminary diagnosis.

**Topic 4. Differential diagnosis of bronchial obstruction syndrome in children. Emergency care for status asthmaticus**

pr.tr.4 "Differential diagnosis of bronchial obstruction syndrome in children. Emergency care for status asthmaticus" (full-time course)

Tactics of patient management in different clinical variants of bronchoobstructive syndrome and its complications in children. Providing emergency care for asthma attacks and asthmatic status. Prevention of bronchial asthma and bronchial obstruction syndrome on the background of acute respiratory diseases in children of different ages.

**Topic 5. Differential diagnosis of hereditary, congenital and chronic diseases of the bronchopulmonary system in children**

pr.tr.5 "Differential diagnosis of hereditary, congenital and chronic diseases of the bronchopulmonary system in children" (full-time course)

Leading clinical symptoms and syndromes in chronic bronchitis, bronchiectasis, hereditary and congenital diseases of the bronchopulmonary system (cystic fibrosis, idiopathic pulmonary hemosiderosis, primary ciliary dyskinesia, Wilms-Campbell syndrome, surplus epiphallium, bronchomaphalitis and bronchomalacia

**Topic 6. Treatment of hereditary, congenital and chronic diseases of the bronchopulmonary system in children**

pr.tr.6 "Treatment of hereditary, congenital and chronic diseases of the bronchopulmonary system in children" (full-time course)

Basic principles of treatment and rehabilitation of chronic bronchitis, bronchiectasis, hereditary and congenital diseases of the bronchopulmonary system (cystic fibrosis, idiopathic pulmonary hemosiderosis, primary ciliary dyskinesia, Wilms-Campbell syndromes, bronchial dysfunction, aplasia, aplasia)

**Topic 7. Differential diagnosis of cardiomegaly in children. Emergency care for acute heart failure.**

pr.tr.7 "Differential diagnosis of cardiomegaly in children. Emergency care for acute heart failure." (full-time course) (full-time course)

Leading clinical symptoms and syndromes of circulatory system diseases in children accompanied by cardiomegaly. Clinical variants of the course and complications of myocarditis, endocarditis, pericarditis, cardiomyopathies, congenital and acquired heart defects in children. Data from laboratory and instrumental studies in myocarditis, endocarditis, pericarditis, cardiomyopathies, congenital and acquired heart defects in children.

**Topic 8. Differential diagnosis of cardiomegaly in children. Emergency care for acute heart failure**

pr.tr.8 "Differential diagnosis of cardiomegaly in children. Emergency care for acute heart failure"." (full-time course)

Differential diagnosis of inflammatory and non-inflammatory diseases of the circulatory system in children with cardiomegaly. Tactics of patient management in myocarditis, endocarditis, pericarditis, cardiomyopathies, congenital and acquired heart defects in children.

**Topic 9. Providing emergency care for acute heart failure. Treatment and prevention of chronic heart failure.**

pr.tr.9 "Providing emergency care for acute heart failure. Treatment and prevention of chronic heart failure." (full-time course)

Treatment of the most common diseases of the circulatory system in children. Emergency care in acute heart failure. Treatment and prevention of chronic heart failure.

**Topic 10. Differential diagnosis of heart rhythm and conduction disorders in children**

pr.tr.10 "Differential diagnosis of heart rhythm and conduction disorders in children" (full-time course)

Leading clinical symptoms and syndromes in extrasystole, paroxysmal tachycardia, atrial fibrillation, complete atrioventricular block. Clinical variants of paroxysmal tachycardia and atrial fibrillation in children. Data from instrumental studies in extrasystole, paroxysmal tachycardia, atrial fibrillation, complete atrioventricular block. Differential diagnosis of extrasystole, paroxysmal tachycardia, atrial fibrillation and complete atrioventricular block

**Topic 11. Emergency care for paroxysmal rhythm disturbances and Morgana-Adams-Stokes syndrome**

pr.tr.11 "Emergency care for paroxysmal rhythm disturbances and Morgana-Adams-Stokes syndrome" (full-time course)

Tactics of patient management with extrasystole, paroxysmal tachycardia, atrial fibrillation, complete atrioventricular block in children. Emergency care for paroxysmal tachycardia, atrial fibrillation, Morgan-Adams-Stokes syndrome in children. Prevention of cardiac arrhythmias and conduction in children

**Topic 12. Differential diagnosis of systemic connective tissue diseases and systemic vasculitis in children**

pr.tr.12 "Differential diagnosis of systemic connective tissue diseases and systemic vasculitis in children" (full-time course)

Leading clinical symptoms and syndromes in juvenile rheumatoid arthritis, systemic lupus erythematosus, acute rheumatic fever, dermatomyositis, scleroderma, Kawasaki disease, nodular polyarteritis and other systemic vasculitis in children. Clinical variants of the course and complications of systemic connective tissue diseases and systemic vasculitis in children. Data from laboratory and instrumental studies in systemic connective tissue diseases and systemic vasculitis in children.

**Topic 13. Differential diagnosis of systemic connective tissue diseases and systemic vasculitis in children.**

pr.tr.13 "Differential diagnosis of systemic connective tissue diseases and systemic vasculitis in children." (full-time course)

Differential diagnosis of systemic connective tissue diseases in children. Differential diagnosis of arthritis in children. Tactics of management of patients with systemic connective tissue diseases and systemic vasculitis in children. Primary and secondary prevention of acute rheumatic fever in children

**Topic 14. Differential diagnosis of functional and organic diseases of the stomach and intestines in children.**

pr.tr.14 "Differential diagnosis of functional and organic diseases of the stomach and intestines in children." (full-time course)

Leading clinical symptoms and syndromes in functional and organic diseases of the stomach and intestines in children (functional dyspepsia, irritable bowel syndrome, functional constipation, reflux disease, gastritis, gastric and duodenal ulcers, crosacidosis, mucosacidase insufficiency) , nonspecific ulcerative colitis

**Topic 15. Clinical - instrumental studies and differential diagnosis of diseases of the digestive organs in children.**

pr.tr.15 "Clinical - instrumental studies and differential diagnosis of diseases of the digestive organs in children." (full-time course)

Clinical - instrumental researches and differential diagnosis of dyspeptic, abdominal pain syndrome, and intestinal absorption disturbance syndrome in children. Clinical variants of gastric and duodenal ulcers, nonspecific ulcerative colitis.

**Topic 16. Tactics of managing children with functional and organic diseases of the stomach and intestines.**

pr.tr.16 "Tactics of managing children with functional and organic diseases of the stomach and intestines." (full-time course)

Tactics of children with functional and organic diseases of the stomach and intestines. Diagnosis of complicated gastric and duodenal ulcers in children, tactics of a general practitioner, emergency care. Prevention of functional and organic intestinal diseases in children

**Topic 17. Differential diagnosis of diseases of the hepatobiliary system and pancreas in children. Portal hypertension syndrome.**

pr.tr.17 "Differential diagnosis of diseases of the hepatobiliary system and pancreas in children. Portal hypertension syndrome." (full-time course)

Leading clinical symptoms and syndromes in biliary dyskinesias, acute and chronic cholecystitis, acute and chronic pancreatitis and chronic hepatitis in children. Clinical variants of biliary dyskinesias, acute and chronic cholecystitis, acute and chronic pancreatitis and chronic hepatitis in children. Data from laboratory and instrumental studies in biliary dyskinesias, acute and chronic cholecystitis, acute and chronic pancreatitis and chronic hepatitis in children. Differential diagnosis of biliary dyskinesias, acute and chronic cholecystitis, acute and chronic pancreatitis and chronic hepatitis in children. Tactics of patient management in biliary dyskinesias, acute and chronic cholecystitis, acute and chronic pancreatitis and chronic hepatitis in children

**Topic 18. Providing emergency care for acute liver failure and complications of portal hypertension syndrome.**

pr.tr.18 "Providing emergency care for acute liver failure and complications of portal hypertension syndrome." (full-time course)

Emergency care in acute liver failure and complications of portal hypertension. Prevention of biliary dyskinesias, acute and chronic cholecystitis, acute and chronic pancreatitis and chronic hepatitis in children.

**Topic 19. Differential diagnosis of infectious and inflammatory diseases of the urinary system in children. Differential diagnosis of hereditary diseases of the urinary system in children**



pr.tr.19 "Differential diagnosis of infectious and inflammatory diseases of the urinary system in children. Differential diagnosis of hereditary diseases of the urinary system in children" (full-time course)

Leading clinical symptoms and syndromes in infectious and inflammatory diseases of the urinary system (urinary tract infections, urethritis, cystitis, pyelonephritis), dysmetabolic nephropathy, hereditary tubulopathies (phosphate-diabetes, Debre-de-Tony-Fancociu syndrome, necrosis) and interstitial nephritis in children. Clinical variants of the course and complications of infectious-inflammatory diseases of the urinary system, interstitial nephritis, dysmetabolic nephropathy and hereditary tubulopathies in children. Data from laboratory and instrumental studies in the most common infectious and inflammatory diseases of the urinary system, interstitial nephritis, dysmetabolic nephropathy and hereditary tubulopathy in children.

**Topic 20. Differential diagnosis of infectious and inflammatory diseases of the urinary system in children. Differential diagnosis of hereditary diseases of the urinary system in children**

pr.tr.20 "Differential diagnosis of infectious and inflammatory diseases of the urinary system in children. Differential diagnosis of hereditary diseases of the urinary system in children" (full-time course)

Differential diagnosis of the most common infectious and inflammatory diseases of the urinary system, interstitial nephritis, dysmetabolic nephropathy and hereditary tubulopathies in children. Tactics of managing a sick child with the most common infectious and inflammatory diseases of the urinary system and their complications, interstitial nephritis, dysmetabolic nephropathy and hereditary tubulopathy in children. Emergency care for acute urinary retention. Prevention of urethritis, cystitis, pyelonephritis

**Topic 21. Differential diagnosis of glomerulonephritis in children.**

pr.tr.21 "Differential diagnosis of glomerulonephritis in children." (full-time course)

Clinical and morphological variants of primary glomerulonephritis in children. Differential diagnosis of acute poststreptococcal glomerulonephritis with hereditary Alport nephritis, rapidly progressing glomerulonephritis, Berge's disease, etc.

**Topic 22. Nephrotic syndrome in children**

pr.tr.22 "Nephrotic syndrome in children" (full-time course)

Nephrotic syndrome in children: differential diagnosis, complications. Clinical variants of chronic glomerulonephritis in children. Indications for kidney biopsy in children.

**Topic 23. Chronic kidney disease**

pr.tr.23 "Chronic kidney disease" (full-time course)

Diagnosis, differential diagnosis, management of patients with chronic kidney disease

**Topic 24. Treatment of acute and chronic glomerulonephritis.**

pr.tr.24 "Treatment of acute and chronic glomerulonephritis." (full-time course)

Tactics of managing a sick child with acute and chronic glomerulonephritis

**Topic 25. Acute renal failure**

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| <p>pr.tr.25 "Acute renal failure" (full-time course)</p> <p>Acute kidney damage (acute renal failure) in children: etiology, pathogenesis, classification, clinical and laboratory symptoms, differential diagnosis, emergency care, management of sick children</p>  |
| <p><b>Topic 26. Diabetes in children. Differential diagnosis of hyperglycemia.</b></p>  |
| <p>pr.tr.26 "Diabetes in children. Differential diagnosis of hyperglycemia." (full-time course)</p> <p>Pathogenetic mechanisms of development of type I and II diabetes mellitus. Criteria for the diagnosis of diabetes mellitus in children. Clinic, differential diagnosis, treatment, prevention, prognosis of diabetes mellitus in children, according to evidence-based medicine. Insulin therapy.</p>  |
| <p><b>Topic 27. Acute complications of diabetes</b></p>   |
| <p>pr.tr.27 "Acute complications of diabetes" (full-time course)</p> <p>Ketoacidotic and hypoglycemic coma, hyperosmolar non-acidotic, lactic acidotic coma: differential diagnosis, emergency care and prevention. Forecast</p>  |
| <p><b>Topic 28. Late complications of diabetes in children</b></p>  |
| <p>pr.tr.28 "Late complications of diabetes in children" (full-time course)</p> <p>Late complications of diabetes in children. The study of this topic involves theoretical work in the classroom, interpretation of laboratory data, endoscopic examination, X-ray and ultrasound examination of the urinary tract in the departments of the medical institution (according to the cooperation agreement between the medical institution and the university). Work at the patient's bedside.</p> |
| <p><b>Topic 29. Differential diagnosis of thyroid diseases in children</b></p>  |
| <p>pr.tr.29 "Differential diagnosis of thyroid diseases in children" (full-time course)</p> <p>Etiopathogenesis, classification, clinical manifestations and laboratory-instrumental manifestations of thyroid diseases in children. Differential diagnosis</p>   |
| <p><b>Topic 30. Treatment and prevention of thyroid diseases</b></p>  |
| <p>pr.tr.30 "Treatment and prevention of thyroid diseases" (full-time course)</p> <p>Treatment, prevention of diffuse toxic goiter, hypothyroidism, congenital hypothyroidism, autoimmune thyroiditis, endemic goiter in children. Degrees of goiter. Emergency care for thyrotoxic crisis in children. Forecast.</p>   |
| <p><b>Topic 31. Diseases of the hypothalamic-pituitary system and gonads in children</b></p>  |
| <p>pr.tr.31 "Diseases of the hypothalamic-pituitary system and gonads in children" (full-time course)</p> <p>Etiology, pathogenesis, classification, clinic, diagnosis, differential diagnosis, treatment, prevention, prognosis of growth pathology and pathology of the gonads in children.</p>   |
| <p><b>Topic 32. Differential diagnosis of adrenal gland diseases in children.</b></p>   |

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| <p>pr.tr.32 "Differential diagnosis of adrenal gland diseases in children." (full-time course)</p> <p>Differential diagnosis of adrenal gland diseases in children. Acute and chronic adrenal insufficiency in children. Features of the clinic, diagnosis. Differential diagnosis. Adrenogenital syndrome. Addison's crisis.</p>                |
| <p><b>Topic 33. Differential diagnosis of deficiency anemia in children.</b></p>   |
| <p>pr.tr.33 "Differential diagnosis of deficiency anemia in children." (full-time course)</p> <p>Etiopathogenesis. Classification. Features of clinical manifestations, diagnosis and differential diagnosis of deficient anemias in children. Iron deficiency anemia. Principles of treatment, treatment of chronic bleeding</p>                |
| <p><b>Topic 34. Differential diagnosis and principles of treatment of hemoblastosis in children.</b></p>   |
| <p>pr.tr.34 "Differential diagnosis and principles of treatment of hemoblastosis in children." (full-time course)</p> <p>theories of the origin of leukemia and lymphoma in children. Pathogenesis. Diagnosis. Differential diagnosis with other diseases of the blood system and diseases associated with hyperplastic syndrome. Treatment.</p> |
| <p><b>Topic 35. Differential diagnosis of diseases with hemorrhagic syndrome in children</b></p>   |
| <p>pr.tr.35 "Differential diagnosis of diseases with hemorrhagic syndrome in children" (full-time course)</p> <p>DIC syndrome, hemorrhagic vasculitis. Etiology, pathogenesis, clinical and laboratory-instrumental studies. Treatment. Help with bleeding</p>   |
| <p><b>Topic 36. Hemophilia, thrombocytopenia in children.</b></p>  |
| <p>pr.tr.36 "Hemophilia, thrombocytopenia in children." (full-time course)</p> <p>Differential diagnosis of hemophilia and pathologies of platelet coagulation. Principles of treatment</p>  |
| <p><b>Topic 37. Treatment of major hemorrhagic conditions</b></p>  |
| <p>pr.tr.37 "Treatment of major hemorrhagic conditions" (full-time course)</p> <p>Emergency care for bleeding and hemorrhagic conditions that need treatment. Forecast.</p>  |
| <p><b>Topic 38. Acute and chronic bleeding in children</b></p>   |
| <p>pr.tr.38 "Acute and chronic bleeding in children" (full-time course)</p> <p>Emergency care for acute bleeding of varying severity. Diagnosis and treatment of chronic bleeding in children</p>  |
| <p><b>Topic 39. Helping a newborn in the delivery room. Primary resuscitation of newborns</b></p>  |

pr.tr.39 "Helping a newborn in the delivery room. Primary resuscitation of newborns" (full-time course)

Features of primary care for the newborn in the delivery room depending on gestational age and condition. Resuscitation measures. Indications for ABC steps of primary resuscitation of the newborn.

#### **Topic 40. Premature babies and babies born with low body weight**

pr.tr.40 "Premature babies and babies born with low body weight" (full-time course)

Premature newborns. Intrauterine growth retardation (IUGR). Differential diagnosis. Features of development and course of pathological conditions.

#### **Topic 41. Asphyxia of a newborn**

pr.tr.41 "Asphyxia of a newborn" (full-time course)

Asphyxia of newborns. Criteria for multiorgan failure in neonatal asphyxia. Laboratory diagnosis of neonatal asphyxia. Differential diagnosis of neonatal asphyxia. Nursing newborns who have suffered asphyxia

#### **Topic 42. Birth trauma**

pr.tr.42 "Birth trauma" (full-time course)

Classification, causes, clinical manifestations, diagnosis and differential diagnosis of birth injuries of soft tissues, bones, internal organs and tactics of their treatment

#### **Topic 43. Birth trauma**

pr.tr.43 "Birth trauma" (full-time course)

Classification, causes, clinical manifestations, diagnosis and differential diagnosis of birth injuries of intracranial and peripheral nervous system injuries. Treatment of birth defects of the brain and peripheral nervous system

#### **Topic 44. Perinatal lesions of the central nervous system of hypoxic and hemorrhagic origin, perinatal encephalopathies**

pr.tr.44 "Perinatal lesions of the central nervous system of hypoxic and hemorrhagic origin, perinatal encephalopathies" (full-time course)

CNS depression and excitation syndromes, cerebral edema, convulsive syndrome, periventricular and intraventricular hemorrhage. Principles of treatment. Emergency aid

#### **Topic 45. Respiratory diseases in newborns. Differential diagnosis of the syndrome of respiratory disorders in newborns**

pr.tr.45 "Respiratory diseases in newborns. Differential diagnosis of the syndrome of respiratory disorders in newborns" (full-time course)

Classification and typical clinical picture of infectious and non-infectious respiratory diseases in newborns (neonatal pneumonia, RDS). Differential diagnosis of the most common lung diseases in newborns.

#### **Topic 46. Principles of treatment of respiratory disorders in newborns**

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| <p>pr.tr.46 "Principles of treatment of respiratory disorders in newborns" (full-time course)</p> <p>Principles of treatment (depending on the severity of DR), rehabilitation and prevention of respiratory diseases in newborns. Emergency care for major emergencies in newborns with respiratory diseases.</p>                                       |
| <p><b>Topic 47. Differential diagnosis of jaundice in newborns.</b></p>  |
| <p>pr.tr.47 "Differential diagnosis of jaundice in newborns." (full-time course)</p> <p>Neonatal jaundice: differential diagnosis of "physiological" and pathological jaundice. Differential diagnosis of different types of pathological jaundice. Tactics of management of newborns with manifestations of jaundice and with complicated jaundice.</p> |
| <p><b>Topic 48. Hemolytic disease of the newborn.</b></p>  |
| <p>pr.tr.48 "Hemolytic disease of the newborn." (full-time course)</p> <p>Etiology, pathomechanisms of development, classification of hemolytic disease of the newborn. Clinical signs, laboratory diagnosis. Features of the course, complications, principles of treatment. Indications for replacement blood transfusion.</p>                         |
| <p><b>Topic 49. Hemorrhagic disorders in newborns.</b></p>   |
| <p>pr.tr.49 "Hemorrhagic disorders in newborns." (full-time course)</p> <p>Primary and secondary hemorrhagic disorders in newborns. Mechanism of development, differential diagnosis of hemorrhagic disease of newborns. Treatment, prevention.</p>  |
| <p><b>Topic 50. Neonatal infections. Perinatal infections. Intrauterine infection, intrauterine infection. Perinatal infections.</b></p>   |
| <p>pr.tr.50 "Neonatal infections. Perinatal infections. Intrauterine infection, intrauterine infection. Perinatal infections." (full-time course)</p> <p>Local infection in newborns: omphalitis, pyoderma, vesiculopustulosis, neonatal vesicles. Diagnosis, differential diagnosis, treatment</p>  |
| <p><b>Topic 51. Local infection in newborns</b></p>  |
| <p>pr.tr.51 "Local infection in newborns" (full-time course)</p> <p>Local infection in newborns: omphalitis, pyoderma, vesiculopustulosis, neonatal vesicles. Diagnosis, differential diagnosis, treatment</p>   |
| <p><b>Topic 52. Neonatal sepsis</b></p>  |
| <p>pr.tr.52 "Neonatal sepsis" (full-time course)</p> <p>Systemic infection. Generalized infection. Sepsis: bacteremia, septicemia, septicemia. Early, late neonatal sepsis. Criteria for diagnosis. Features of clinical manifestations in newborns with different gestational ages. Treatment of neonatal sepsis.</p>                                   |
| <p><b>Topic 53. Algorithm for assessing the condition of a newborn child with signs of an infectious disease immediately after birth</b></p>   |

pr.tr.53 "Algorithm for assessing the condition of a newborn child with signs of an infectious disease immediately after birth" (full-time course)

Methods of examination and algorithm for assessing the condition of the newborn with signs of infectious disease immediately after birth and signs of further disease. Systematic medical examination. Differential diagnosis. Treatment of infectious diseases in newborns. Forecast.

**Topic 54. Differential diagnosis of the most common diseases of children of the 1st year**

pr.tr.54 "Differential diagnosis of the most common diseases of children of the 1st year" (full-time course)

General signs of danger of the child's condition. Diagnosis of jaundice in children under 2 months. Differential diagnosis of perinatal CNS lesions in infants. Sudden death syndrome

**Topic 55. Differential diagnosis of the most common deficiency conditions in children of the 1st year of life**

pr.tr.55 "Differential diagnosis of the most common deficiency conditions in children of the 1st year of life" (full-time course)

Differential diagnosis of the most common deficient conditions (malnutrition, malabsorption, dehydration, rickets, iron deficiency anemia), allergic conditions in young children

**Topic 56. Differential diagnosis of the most common diseases of children in the first five years of life.**

pr.tr.56 "Differential diagnosis of the most common diseases of children in the first five years of life." (full-time course)

Assessment, differential diagnosis, treatment, consultation and follow-up of colds, coughs in children of the first 5 years of life

**Topic 57. Observation and treatment of children of the first 5 years of life in outpatient settings**

pr.tr.57 "Observation and treatment of children of the first 5 years of life in outpatient settings" (full-time course)

Treatment, consultation and follow-up of difficult breathing, stenotic laryngotracheitis, croup. Emergency care for stenotic laryngotracheitis.

**Topic 58. Differential diagnosis of the most common diseases of children in the first five years of life**

pr.tr.58 "Differential diagnosis of the most common diseases of children in the first five years of life" (full-time course)

Assessment, differential diagnosis, treatment, consultation and follow-up for ear problems, sore throat, fever, HIV in children under 5 years of age

**Topic 59. Differential diagnosis of the most common diseases of children in the first five years of life**

pr.tr.59 "Differential diagnosis of the most common diseases of children in the first five years of life" (full-time course)

Assessment, differential diagnosis of eating disorders (malnutrition, obesity) in children of the first 5 years; treatment of protein-energy deficiency depending on the degree in the hospital and outpatient settings

**Topic 60. Differential diagnosis of the most common diseases of children in the first five years of life**

pr.tr.60 "Differential diagnosis of the most common diseases of children in the first five years of life" (full-time course)

Causes, diagnosis and differential diagnosis of anemia in children. Outpatient observation and treatment of deficient anemias in children. Iron deficiency anemia in children of the first years of life. Diarrhea in children. Surveillance and management in an outpatient setting.

**Topic 61. Differential diagnosis of the most common diseases of children in the first five years of life**

pr.tr.61 "Differential diagnosis of the most common diseases of children in the first five years of life" (full-time course)

Assessment, differential diagnosis, treatment, consultation and observation of acetonemic syndrome

**Topic 62. Peculiarities of medical observation of adolescent children with somatic pathology.**

pr.tr.62 "Peculiarities of medical observation of adolescent children with somatic pathology." (full-time course)

Features of medical observation of adolescents with somatic pathology (pathology of the respiratory, digestive, circulatory, urinary, endocrine and hematopoietic systems). Child abuse syndrome

**Topic 63. Differential diagnosis of arterial hypertension.**

pr.tr.63 "Differential diagnosis of arterial hypertension." (full-time course)

Differential diagnosis, tactics of management of a patient with arterial hypertension. Providing emergency care in autonomic crises, hypertensive crisis. Prevention of autonomic dysfunction and hypertension in children.

**Topic 64. Differential diagnosis of coma in children.**

pr.tr.64 "Differential diagnosis of coma in children." (full-time course)

Diagnosis of comatose syndrome. Emergency care for insects of various origins in outpatient settings

**Topic 65. Differential credit**

assessm.65 "Differential credit" (full-time course)

Diff. the test consists of a written answer to 3 questions. In case of quarantine restrictions, or restrictions of martial law, drawing up diff. credit is carried out remotely using the platform Mix.sumdu.edu.ua, Zoom, Google meet. Credit duration - 2 academic hours.

## 9. Teaching methods

### 9.1 Teaching methods

Course involves learning through:

|     |                         |
|-----|-------------------------|
| TM1 | Case-based learning     |
| TM2 | Team Based Learning     |
| TM3 | Research Based Learning |
| TM4 | Practical training      |
| TM5 | Self-study              |
| TM6 | Electronic learning     |
| TM7 | Inquiry-based learning  |
| TM8 | Research Based Learning |

The discipline is taught using modern teaching methods (CBL, TBL, RBL), which not only promote the development of professional skills, but also stimulate creative and scientific activity and aimed at training practice-oriented specialists. Acquisition of soft skills by students is carried out during the entire period of studying the discipline. Ability to analytical and critical thinking, teamwork, perseverance is formed during team-, practice- and case-oriented training, knowledge and understanding of the subject area is acquired during lectures and self-study. Electronic education stimulates the ability to use information technologies. training on on the basis of research encourages the development of certainty and persistence in relation to the set tasks and assumed responsibilities.

LC 1. Ability to abstract thinking, analysis and synthesis. LC 2. The ability to learn and master modern knowledge. LC 3. Ability to apply knowledge in practical situations. LC4. Knowledge and understanding of the subject field and understanding of professional activity. LC 5. Ability to adapt and act in a new situation. LC 6. Ability to make informed decisions. LC 7. Ability to work in a team. LC 8. Ability to interpersonal interaction. LC 10. Ability to use information and communication technologies. LC 11. Ability to search, process and analyze information from various sources. LC 12. Determination and persistence in relation to assigned tasks and assumed responsibilities.

### 9.2 Learning activities

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|-----|--|
| LA1 | Preparing for Step 2 (Krok 2)  |
| LA2 | Preparation for practical classes  |
| LA3 | Preparation and presentation of a report (incentive activity, additional points) |
| LA4 | Self-study   |



|      |   |
|------|---|
| LA5  | Practical work with the patient in specialized departments of the hospital  |
| LA6  | Preparation for the final control   |
| LA7  | Solving situational problems  |
| LA8  | Work with textbooks and relevant information sources  |
| LA9  | Electronic learning in systems (the list is specified by the teacher, for example, Google Classroom, Zoom and in the YouTube channel format)  |
| LA10 | Analysis and discussion of cases (educational/practical/research)   |
| LA11 | Interpretation of laboratory (clinical analysis of blood, urine, biochemical analysis of blood, immunological tests, etc.) and instrumental (ECG, echocardiography, EFGDS, ultrasound, CT, radiography, spirometry, etc.) examination methods |
| LA12 | Solving practical problems using online technologies  |
| LA13 | Work with textbooks and relevant information sources  |

## 10. Methods and criteria for assessment

### 10.1. Assessment criteria

| Definition  | National scale   | Rating scale           |
|---|------------------|------------------------|
| Outstanding performance without errors                          | 5 (Excellent)    | $170 \leq RD \leq 200$ |
| Above the average standard but with minor errors                | 4 (Good)         | $140 \leq RD < 169$    |
| Fair but with significant shortcomings                          | 3 (Satisfactory) | $120 \leq RD < 139$    |
| Fail – some more work required before the credit can be awarded | 2 (Fail)         | $0 \leq RD < 119$      |

### 10.2 Formative assessment

|   | Description   | Deadline, weeks                                     | Feedback   |
|---|---|---|--|
| FA1<br>Solving situational problems with "Krok-2"                               | During the solving of situational tasks from Step-2, the acquired theoretical knowledge from the subject of the discipline is evaluated. It is conducted at each practical lesson in accordance with the goals of each topic based on a comprehensive assessment of the student's activity, which includes monitoring the level of theoretical training, performing independent work according to the thematic plan | During the entire period of studying the discipline | Feedback is aimed at supporting students' independent work, identifying shortcomings and assessing the level of acquired theoretical knowledge |
| FA2<br>Instructions of the teacher in the process of performing practical tasks | Teacher's instructions regarding students' practice of practical skills (on mannequins, simulators, interpretation of laboratory tests and instrumental studies, during medical manipulations), assessment of the student's ability to master practical skills  | During the entire period of studying the discipline | Successful performance of practical skills is an admission to a differential assessment  |

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| <p>FA3<br/>Work with textbooks and relevant information sources</p>   | <p>Partnership interaction aimed at improving the results of educational activities by comparing one's own current level of success with previous indicators.</p>  | <p>During the entire period of studying the discipline</p> | <p>Feedback is aimed at supporting students' independent work, identifying shortcomings and assessing the level of acquired theoretical knowledge.</p>  |
| <p>FA4<br/>Review and evaluation of written assignments</p>           | <p>Written tasks involve thematic questions (methods of diagnosis, differential diagnosis, recipes) that applicants study independently</p>  | <p>During the entire period of studying the discipline</p> | <p>The written work is checked by the teacher in the presence of the student, the teacher can ask the applicant additional questions.</p>   |
| <p>FA5<br/>Peer assessment</p>  | <p>Partnership interaction aimed at improving the results of educational activities by comparing one's own current level of success with previous indicators. Provides an opportunity to analyze one's own educational activities.</p>   | <p>During the entire period of studying the discipline</p> | <p>Adjustment of approaches to learning together with students, taking into account the results of assessment.</p>  |
| <p>FA6<br/>Survey and teacher's oral comments based on it results</p> | <p>Provides an opportunity to identify the state of the students' experience of educational activities in accordance with the set goals, to find out the prerequisites for the state of formation of the obtained results, the causes of difficulties, to adjust the learning process, to track the dynamics of the formation of learning results and to forecast their development.</p> | <p>During the entire period of studying the discipline</p> | <p>According to the obtained data on the results of training, based on their analysis, it is proposed to determine the assessment as an indicator of the educational achievements of the students</p> |

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| <p>FA7<br/>Solving clinical cases</p>                                  | <p>The case method allows you to reveal and form the qualities and abilities of medical students necessary for further work, forms clinical thinking, analytical abilities, independence in decision-making, communication skills, skills for working with a sufficiently large amount of information.</p>   | <p>During the entire period of studying the discipline</p> | <p>Assessment of the student's ability to think clinically, to justify his decisions, to express his thoughts clearly, to determine the level of theoretical training, which is reflected in the corresponding assessment</p> |
| <p>FA8<br/>Homework to check readiness for the diff. credit</p>        | <p>Provides an opportunity to identify the state of the students' educational experience in accordance with the set goals, to find out the prerequisites for the state of formation of the obtained results, the causes of difficulties, to adjust the learning process.</p>   | <p>During the entire period of instilling discipline</p>   | <p>According to the received data on the results of training, based on their analysis, it is proposed to determine the assessment as an indicator of the achievements of the students' educational activities.</p>            |
| <p>FA9<br/>The task of assessing the level of theoretical training</p> | <p>Evaluation of acquired theoretical knowledge on the subject of the discipline. It is conducted at each practical lesson in accordance with the specific goals of each topic based on a comprehensive evaluation of the student's activity, which includes monitoring the level of theoretical training, performing independent work according to the thematic plan.</p> | <p>During the entire period of studying the discipline</p> | <p>Feedback is aimed at supporting students' independent work, identifying shortcomings and assessing the level of acquired theoretical knowledge.</p>  |

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| FA10<br>Consulting the teacher during the preparation of an individual research project (speech at a conference, competition of scientific papers) | An important factor in the formation of professional qualities of future specialists is the research work of students. Involvement of the latter in research activities contributes to the formation of their scientific worldview, industriousness, work capacity, initiative, etc.   | During the entire period of studying the discipline | Teacher's oral comments. The student is given additional incentive points (from 5 to 10), depending on the type of research projectND3  |
| FA11<br>Discussions in focus groups  | The method makes it possible to involve all participants in the process of discussion and justification of one's own opinion through multilateral communication, to develop the ability to conduct a professional discussion, to cultivate respect for colleagues and the ability to generate alternative ideas and proposals. | During the entire period of studying the discipline | Assessment of the student's ability to work in a team, the ability to justify their decisions, determination of the level of theoretical training, which is reflected in the corresponding grade. |
| FA12<br>Instructions of the teacher in the process of performing practical tasks   | Practice of practical skills on mannequins and simulators, skills of examining a sick child  | During the entire period of studying the discipline | Successful performance of practical skills is a condition for admission to the final inspection.  |
| FA13<br>Preparation to the differential credit   | The discipline is taught using modern teaching methods (CBL, TBL, RBL), which not only promote the development of professional skills, but also stimulate creative and scientific activity and aimed at training practice-oriented specialists.  | During the entire period of studying the discipline | Knowledge and understanding of the subject area and professional activity comprehension.  |

### 10.3 Summative assessment

|  | Description | Deadline, weeks | Feedback |
|--|-------------|-----------------|----------|
|--|-------------|-----------------|----------|

|  |  |   |  |
|--|--|---|--|
| <p>SA1<br/>Testing in the "Krok-2" database</p>  | <p>Provides an opportunity to familiarize yourself with the "Krok-2" questions from pediatrics, decide on the correct answers, and prepare for the official test.</p>  | <p>Throughout the study of the discipline</p>   | <p>Control testing is conducted at the end of studying the discipline and is a prerequisite for admission to differential credit. The applicant must answer correctly at least 90% of the questions in the "Step-2" test base.</p>                             |
| <p>SA2<br/>Final control: differential assessment</p>                                    | <p>Applicants who have successfully mastered the material from the discipline, passed the computer test - at least 90% of correct answers from the "Krok-2" question base are allowed to take the differential test.</p>   | <p>The last practical lesson</p>  | <p>The applicant can get 80 points for differential credit. The minimum number of points a student must receive is 48 points</p>   |
| <p>SA3<br/>Implementation of a research project (preparation, presentation, defense)</p> | <p>Applicants who are involved in research activities have the opportunity to present the results of their own research during practical classes to classmates, in publications (conference abstracts, articles), at conferences, student research competitions, etc. (incentive activity, additional points).</p> | <p>During the entire period of studying the discipline and longer if there is a need to extend the rese</p> | <p>Incentive points are added to the grade for the discipline for the implementation of an individual research project (defense of a student thesis 10 points, speech at a conference, poster presentation at a conference, theses of reports - 5 points).</p> |

|  |  |   |  |
|--|--|---|--|
| SA4<br>Performance of practical skills | Complex practice of the practical component of the programs of educational disciplines in a safe for education seekers in a simulation environment and, if possible, directly at the bedside of a sick child | In the last week of studying the discipline | It is mandatory for admission to the diff. offset The maximum number of points is 10, the minimum is 6 |
|--|--|---|--|

Form of assessment:

|  |  | Points            | Можливість перескладання з метою підвищення оцінки |
|--|--|-------------------|--|
| <b>The second semester of teaching</b>   |  | <b>120 scores</b> |  |
| SA1. Testing in the "Krok-2" database  |  | <b>20</b>         |  |
|  | The applicant answers 150 questions from the "Step-2" database, at least 90% of correct answers are required to receive the minimum number of points | 20                | No   |
| SA2. Final control: differential assessment                                    |  | <b>80</b>         |  |
|  |  | 80                | No   |
| SA3. Implementation of a research project (preparation, presentation, defense) |  | <b>10</b>         |  |
|  |  | 10                | No   |
| SA4. Performance of practical skills   |  | <b>10</b>         |  |
|  |  | 10                | No   |

When mastering the materials of the module, the student is assigned a maximum of 5 points for each practical lesson (the grade is set in the traditional 4-point grading system). At the end of the training year, the arithmetic mean of student performance is calculated. The maximum number of points that a student can get in practical classes during the academic year - 100. The number of points student is calculated by the formula 100 multiplied by the arithmetic mean and divided by 5. By testing in the base "Krok-2" the student receives a maximum of 20 points. The minimum number of points you must get a student - 12 points. Incentive points are added to the discipline grade for individual performance research project (defense of a student thesis 10 points, presentation at a conference, poster presentation at the conference, theses of presentations - 5 points). The student is admitted to the differential test provided that the requirements of the curriculum are met and if for the current educational activity he scored at least 72 points. Score for diff. the test is set in the traditional 4-point grading system with subsequent translation into points, with a score of "5" corresponds to 80 points, "4" - 64 points, "3" - 48 points, "2" - 0 points. The credit is credited to the student if he scored at least 48 out of 80 points.

## 11. Learning resources

## 11.1 Material and technical support

|      |  |
|------|--|
| MTS1 | Information and communication systems  |
| MTS2 | Library funds  |
| MTS3 | Computers, computer systems and networks   |
| MTS4 | Simulation center (phantom of the newborn for primary resuscitation with a set of equipment)   |
| MTS5 | Multimedia, video and sound reproduction, projection equipment (video cameras, projectors, screens, laptops)                               |
| MTS6 | Software (to support distance learning), 3-D virtual training on "congenital heart disease"  |
| MTS7 | Medical facilities / premises and equipment (clinics, hospitals, etc.)   |
| MTS8 | Medical equipment (spirometer, peak flowmeter, electrocardiograph, height meter, scales, fibrogastroscope, tonometer, phonendoscope, etc.) |

## 11.2 Information and methodical support

| <b>Essential Reading</b>    |   |
|-----------------------------|---|
| 1                           | Nelson Textbook of Pediatrics, / Robert Kliegman; Bonita Stanton; Jozeph W St Geme, III; Nina Felice Schor; Richard E Behrman [at all.]. - Edition 21. - Philadelphia, PA : Elsevier Inc., 2020. – eBook.   |
| 2                           | Neonatology: lecture notes / O.K. Redko, V. O. Petrashenko, A. M. Loboda. - Sumy State University, 2021. – 189 p.   |
| <b>Supplemental Reading</b> |   |
| 1                           | Peptic ulcer disease: methodical instructions for practical lessons on the discipline "Pediatrics" [Текст] : for students of specialty 222 "Medicine" of full-time training / S. V. Popov, O. K. Redko. — Sumy : Sumy State University, 2021. — 12 p  |
| 2                           | Methodological instructions for practical lessons "Urinary tract infections in children» on the discipline "Pediatrics" [Текст] : in accordance with the conditions of the Bologna process for students of specialty 222 "Medicine" of full-time training / S. V. Popov, O. K. Redko, V. O. Petrashenko. — Sumy : Sumy State University, 2020. — 18 p |
| 3                           | Dynamics of content of some minerals in teenagers with cardiovascular system pathology against the background of chronic tonsillitis / O.I. Smiyan, A.M. Loboda, Y.A. Manko [et al.] // Wiadomosci Lekarskie. – 2018. – Vol 71(4). – P. 861-864 (Scopus   |
| 4                           | Dynamics of content of some minerals in teenagers with cardiovascular system pathology against the background of chronic tonsillitis / O.I. Smiyan, A.M. Loboda, Y.A. Manko [et al.] // Wiadomosci Lekarskie. – 2018. – Vol 71(4). – P. 861-864 (Scopus   |

|   |  |
|---|--|
| 5   | Neonatology. Introduction [Текст]: study guide/ O.K. Redko, V.O. Petrashenko, I.V. Tarasova, I.E. Zaitsev. - Sumy: Sumy State University, 2017. - 182 p. - ISBN 978-966-657-677-7  |
| <b>Web-based and electronic resources</b> |  |
| 1   | Methodical instructions for practical lessons "The diseases of hypothalamic pituitary system and sexual glands in children" on the discipline "Pediatrics"/ O.K. Redko, V. O. Petrashenko, A. M. Loboda. - [Електронний ресурс] : for stud. of spec. 222 "Medicine" of full-time training / Sumy : Sumy State University, 2023. — 127 p. |
| 2   | Respiratory distress in newborns. Methodical instructions for practical lessons//S. V. Popov, O.K. Redko. - Sumy : Sumy State University, 2023. — 127 p.   |



## COURSE DESCRIPTOR

| №   | Course Descriptor  | Total hours | Classroom work, hours |          |                      |      | Independent work of students, hours |                            |                                      |                      |                            |                                   |    |
|---|--|-------------|-----------------------|----------|----------------------|------|-------------------------------------|----------------------------|--------------------------------------|----------------------|----------------------------|-----------------------------------|----|
|   |  |             | Total hours           | Lectures | Workshops (seminars) | Labs | Total hours                         | Self-study of the material | Preparation for workshops (seminars) | Preparation for labs | Preparation for assessment | Independent extracurricular tasks |    |
| 1   | 2  |             | 3                     | 4        | 5                    | 6    | 7                                   | 8                          | 9                                    | 10                   | 11                         | 12                                | 13 |
| <b>full-time course</b>   |  |             |                       |          |                      |      |                                     |                            |                                      |                      |                            |                                   |    |
| Module 1. Module 1. Differential diagnosis of the most common diseases of the respiratory system, circulatory system, connective tissue and vasculitis in children. Emergency care for major emergencies. |  |             |                       |          |                      |      |                                     |                            |                                      |                      |                            |                                   |    |
| 1   | Differential diagnosis of pneumonia in children. Complications of pneumonia. Emergency care for acute respiratory failure in children. |             | 2.5                   | 2        | 0                    | 2    | 0                                   | 0.5                        | 0                                    | 0.5                  | 0                          | 0                                 | 0  |
| 2   | Differential diagnosis of pneumonia in children. Complications of pneumonia. Emergency care for acute respiratory failure in children  |             | 2.5                   | 2        | 0                    | 2    | 0                                   | 0.5                        | 0                                    | 0.5                  | 0                          | 0                                 | 0  |
| 3   | Differential diagnosis of bronchial obstruction syndrome in children. Emergency care for status asthmaticus                            |             | 2.5                   | 2        | 0                    | 2    | 0                                   | 0.5                        | 0                                    | 0.5                  | 0                          | 0                                 | 0  |
| 4   | Differential diagnosis of bronchial obstruction syndrome in children. Emergency care for status asthmaticus                            |             | 2.5                   | 2        | 0                    | 2    | 0                                   | 0.5                        | 0                                    | 0.5                  | 0                          | 0                                 | 0  |
| 5   | Differential diagnosis of hereditary, congenital and chronic diseases of the bronchopulmonary system in children                       |             | 2.5                   | 2        | 0                    | 2    | 0                                   | 0.5                        | 0                                    | 0.5                  | 0                          | 0                                 | 0  |
| 6   | Treatment of hereditary, congenital and chronic diseases of the bronchopulmonary system in children                                    |             | 2.5                   | 2        | 0                    | 2    | 0                                   | 0.5                        | 0                                    | 0.5                  | 0                          | 0                                 | 0  |
| 7   | Differential diagnosis of cardiomegaly in children. Emergency care for acute heart failure.  |             | 2.5                   | 2        | 0                    | 2    | 0                                   | 0.5                        | 0                                    | 0.5                  | 0                          | 0                                 | 0  |
| 8   | Differential diagnosis of cardiomegaly in children. Emergency care for acute heart failure   |             | 2.5                   | 2        | 0                    | 2    | 0                                   | 0.5                        | 0                                    | 0.5                  | 0                          | 0                                 | 0  |
| 9   | Providing emergency care for acute heart failure. Treatment and prevention of chronic heart failure.                                   |             | 2.5                   | 2        | 0                    | 2    | 0                                   | 0.5                        | 0                                    | 0.5                  | 0                          | 0                                 | 0  |

| 1   | 2   | 3   | 4 | 5 | 6 | 7 | 8   | 9 | 10  | 11 | 12 | 13 |
|---|---|-----|---|---|---|---|-----|---|-----|----|----|----|
| 10  | Differential diagnosis of heart rhythm and conduction disorders in children   | 2.5 | 2 | 0 | 2 | 0 | 0.5 | 0 | 0.5 | 0  | 0  | 0  |
| 11  | Emergency care for paroxysmal rhythm disturbances and Morgana-Adams-Stokes syndrome   | 2.5 | 2 | 0 | 2 | 0 | 0.5 | 0 | 0.5 | 0  | 0  | 0  |
| 12  | Differential diagnosis of systemic connective tissue diseases and systemic vasculitis in children   | 2.5 | 2 | 0 | 2 | 0 | 0.5 | 0 | 0.5 | 0  | 0  | 0  |
| 13  | Differential diagnosis of systemic connective tissue diseases and systemic vasculitis in children.  | 2.5 | 2 | 0 | 2 | 0 | 0.5 | 0 | 0.5 | 0  | 0  | 0  |
| Module 2. Module 2. Differential diagnosis of the most common diseases of the digestive organs in children. Differential diagnosis of the most common diseases of the urinary system in children. Emergency care for major emergencies. |   |     |   |   |   |   |     |   |     |    |    |    |
| 1   | Differential diagnosis of functional and organic diseases of the stomach and intestines in children.  | 2.5 | 2 | 0 | 2 | 0 | 0.5 | 0 | 0.5 | 0  | 0  | 0  |
| 2   | Clinical - instrumental studies and differential diagnosis of diseases of the digestive organs in children.   | 2.5 | 2 | 0 | 2 | 0 | 0.5 | 0 | 0.5 | 0  | 0  | 0  |
| 3   | Tactics of managing children with functional and organic diseases of the stomach and intestines.  | 2.5 | 2 | 0 | 2 | 0 | 0.5 | 0 | 0.5 | 0  | 0  | 0  |
| 4   | Differential diagnosis of diseases of the hepatobiliary system and pancreas in children. Portal hypertension syndrome.  | 2.5 | 2 | 0 | 2 | 0 | 0.5 | 0 | 0.5 | 0  | 0  | 0  |
| 5   | Providing emergency care for acute liver failure and complications of portal hypertension syndrome.   | 2.5 | 2 | 0 | 2 | 0 | 0.5 | 0 | 0.5 | 0  | 0  | 0  |
| 6   | Differential diagnosis of infectious and inflammatory diseases of the urinary system in children. Differential diagnosis of hereditary diseases of the urinary system in children | 2.5 | 2 | 0 | 2 | 0 | 0.5 | 0 | 0.5 | 0  | 0  | 0  |
| 7   | Differential diagnosis of infectious and inflammatory diseases of the urinary system in children. Differential diagnosis of hereditary diseases of the urinary system in children | 2.5 | 2 | 0 | 2 | 0 | 0.5 | 0 | 0.5 | 0  | 0  | 0  |
| 8   | Differential diagnosis of glomerulonephritis in children.   | 2.5 | 2 | 0 | 2 | 0 | 0.5 | 0 | 0.5 | 0  | 0  | 0  |
| 9   | Nephrotic syndrome in children  | 2.5 | 2 | 0 | 2 | 0 | 0.5 | 0 | 0.5 | 0  | 0  | 0  |
| 10  | Chronic kidney disease  | 2.5 | 2 | 0 | 2 | 0 | 0.5 | 0 | 0.5 | 0  | 0  | 0  |
| 11  | Treatment of acute and chronic glomerulonephritis.  | 2.5 | 2 | 0 | 2 | 0 | 0.5 | 0 | 0.5 | 0  | 0  | 0  |

| 1   | 2   | 3   | 4 | 5 | 6 | 7 | 8   | 9 | 10  | 11 | 12 | 13 |
|---|---|-----|---|---|---|---|-----|---|-----|----|----|----|
| 12  | Acute renal failure   | 2.5 | 2 | 0 | 2 | 0 | 0.5 | 0 | 0.5 | 0  | 0  | 0  |
| Module 3. Module 3. Differential diagnosis of the most common diseases of the endocrine system in children. Differential diagnosis of the most common blood diseases in children. Immediate assistance in the main critical conditions. |   |     |   |   |   |   |     |   |     |    |    |    |
| 1   | Diabetes in children. Differential diagnosis of hyperglycemia.  | 2.5 | 2 | 0 | 2 | 0 | 0.5 | 0 | 0.5 | 0  | 0  | 0  |
| 2   | Acute complications of diabetes   | 2.5 | 2 | 0 | 2 | 0 | 0.5 | 0 | 0.5 | 0  | 0  | 0  |
| 3   | Late complications of diabetes in children  | 2.5 | 2 | 0 | 2 | 0 | 0.5 | 0 | 0.5 | 0  | 0  | 0  |
| 4   | Differential diagnosis of thyroid diseases in children  | 2.5 | 2 | 0 | 2 | 0 | 0.5 | 0 | 0.5 | 0  | 0  | 0  |
| 5   | Treatment and prevention of thyroid diseases  | 2.5 | 2 | 0 | 2 | 0 | 0.5 | 0 | 0.5 | 0  | 0  | 0  |
| 6   | Diseases of the hypothalamic-pituitary system and gonads in children  | 2.5 | 2 | 0 | 2 | 0 | 0.5 | 0 | 0.5 | 0  | 0  | 0  |
| 7   | Differential diagnosis of adrenal gland diseases in children.   | 2.5 | 2 | 0 | 2 | 0 | 0.5 | 0 | 0.5 | 0  | 0  | 0  |
| 8   | Differential diagnosis of deficiency anemia in children.  | 2.5 | 2 | 0 | 2 | 0 | 0.5 | 0 | 0.5 | 0  | 0  | 0  |
| 9   | Differential diagnosis and principles of treatment of hemoblastosis in children.                              | 2.5 | 2 | 0 | 2 | 0 | 0.5 | 0 | 0.5 | 0  | 0  | 0  |
| 10  | Differential diagnosis of diseases with hemorrhagic syndrome in children                                      | 2.5 | 2 | 0 | 2 | 0 | 0.5 | 0 | 0.5 | 0  | 0  | 0  |
| 11  | Hemophilia, thrombocytopenia in children.   | 2.5 | 2 | 0 | 2 | 0 | 0.5 | 0 | 0.5 | 0  | 0  | 0  |
| 12  | Treatment of major hemorrhagic conditions   | 2.5 | 2 | 0 | 2 | 0 | 0.5 | 0 | 0.5 | 0  | 0  | 0  |
| 13  | Acute and chronic bleeding in children  | 2.5 | 2 | 0 | 2 | 0 | 0.5 | 0 | 0.5 | 0  | 0  | 0  |
| Module 4. Module 4. Differential diagnosis of newborn diseases. Assistance in emergency situations  |   |     |   |   |   |   |     |   |     |    |    |    |
| 1   | Helping a newborn in the delivery room. Primary resuscitation of newborns                                     | 2.5 | 2 | 0 | 2 | 0 | 0.5 | 0 | 0.5 | 0  | 0  | 0  |
| 2   | Premature babies and babies born with low body weight   | 2.5 | 2 | 0 | 2 | 0 | 0.5 | 0 | 0.5 | 0  | 0  | 0  |
| 3   | Asphyxia of a newborn   | 2.5 | 2 | 0 | 2 | 0 | 0.5 | 0 | 0.5 | 0  | 0  | 0  |
| 4   | Birth trauma  | 2.5 | 2 | 0 | 2 | 0 | 0.5 | 0 | 0.5 | 0  | 0  | 0  |
| 5   | Birth trauma  | 2.5 | 2 | 0 | 2 | 0 | 0.5 | 0 | 0.5 | 0  | 0  | 0  |
| 6   | Perinatal lesions of the central nervous system of hypoxic and hemorrhagic origin, perinatal encephalopathies | 2.5 | 2 | 0 | 2 | 0 | 0.5 | 0 | 0.5 | 0  | 0  | 0  |
| 7   | Respiratory diseases in newborns. Differential diagnosis of the syndrome of respiratory disorders in newborns | 2.5 | 2 | 0 | 2 | 0 | 0.5 | 0 | 0.5 | 0  | 0  | 0  |

| 1  | 2  | 3   | 4 | 5 | 6 | 7 | 8   | 9 | 10  | 11 | 12 | 13 |
|--|--|-----|---|---|---|---|-----|---|-----|----|----|----|
| 8  | Principles of treatment of respiratory disorders in newborns   | 2.5 | 2 | 0 | 2 | 0 | 0.5 | 0 | 0.5 | 0  | 0  | 0  |
| 9  | Differential diagnosis of jaundice in newborns.  | 2.5 | 2 | 0 | 2 | 0 | 0.5 | 0 | 0.5 | 0  | 0  | 0  |
| 10   | Hemolytic disease of the newborn.  | 2.5 | 2 | 0 | 2 | 0 | 0.5 | 0 | 0.5 | 0  | 0  | 0  |
| 11   | Hemorrhagic disorders in newborns.   | 2.5 | 2 | 0 | 2 | 0 | 0.5 | 0 | 0.5 | 0  | 0  | 0  |
| 12   | Neonatal infections. Perinatal infections. Intrauterine infection, intrauterine infection. Perinatal infections.     | 2.5 | 2 | 0 | 2 | 0 | 0.5 | 0 | 0.5 | 0  | 0  | 0  |
| 13   | Local infection in newborns  | 2.5 | 2 | 0 | 2 | 0 | 0.5 | 0 | 0.5 | 0  | 0  | 0  |
| 14   | Neonatal sepsis  | 2.5 | 2 | 0 | 2 | 0 | 0.5 | 0 | 0.5 | 0  | 0  | 0  |
| 15   | Algorithm for assessing the condition of a newborn child with signs of an infectious disease immediately after birth | 2.5 | 2 | 0 | 2 | 0 | 0.5 | 0 | 0.5 | 0  | 0  | 0  |
| Module 5. Module 5. Integrated management, differential diagnosis of diseases of children of different ages. Diagnosis of coma in children and emergency care for major emergencies. |  |     |   |   |   |   |     |   |     |    |    |    |
| 1  | Differential diagnosis of the most common diseases of children of the 1st year                                       | 2.5 | 2 | 0 | 2 | 0 | 0.5 | 0 | 0.5 | 0  | 0  | 0  |
| 2  | Differential diagnosis of the most common deficiency conditions in children of the 1st year of life                  | 2.5 | 2 | 0 | 2 | 0 | 0.5 | 0 | 0.5 | 0  | 0  | 0  |
| 3  | Differential diagnosis of the most common diseases of children in the first five years of life.                      | 2.5 | 2 | 0 | 2 | 0 | 0.5 | 0 | 0.5 | 0  | 0  | 0  |
| 4  | Observation and treatment of children of the first 5 years of life in outpatient settings                            | 2.5 | 2 | 0 | 2 | 0 | 0.5 | 0 | 0.5 | 0  | 0  | 0  |
| 5  | Differential diagnosis of the most common diseases of children in the first five years of life                       | 2.5 | 2 | 0 | 2 | 0 | 0.5 | 0 | 0.5 | 0  | 0  | 0  |
| 6  | Differential diagnosis of the most common diseases of children in the first five years of life                       | 2.5 | 2 | 0 | 2 | 0 | 0.5 | 0 | 0.5 | 0  | 0  | 0  |
| 7  | Differential diagnosis of the most common diseases of children in the first five years of life                       | 2.5 | 2 | 0 | 2 | 0 | 0.5 | 0 | 0.5 | 0  | 0  | 0  |
| 8  | Differential diagnosis of the most common diseases of children in the first five years of life                       | 2.5 | 2 | 0 | 2 | 0 | 0.5 | 0 | 0.5 | 0  | 0  | 0  |
| 9  | Peculiarities of medical observation of adolescent children with somatic pathology.                                  | 2.5 | 2 | 0 | 2 | 0 | 0.5 | 0 | 0.5 | 0  | 0  | 0  |

| 1                                 | 2  | 3          | 4          | 5        | 6          | 7        | 8         | 9        | 10        | 11       | 12       | 13        |
|-----------------------------------|--|------------|------------|----------|------------|----------|-----------|----------|-----------|----------|----------|-----------|
| 10                                | Differential diagnosis of arterial hypertension. | 2.5        | 2          | 0        | 2          | 0        | 0.5       | 0        | 0.5       | 0        | 0        | 0         |
| 11                                | Differential diagnosis of coma in children.      | 2.5        | 2          | 0        | 2          | 0        | 0.5       | 0        | 0.5       | 0        | 0        | 0         |
| 12                                | Differential credit                              | 0          | 0          | 0        | 0          | 0        | 0         | 0        | 0         | 0        | 0        | 0         |
| Assesment                         |  |            |            |          |            |          |           |          |           |          |          |           |
| 1                                 | Graded Credit                                    | 6          | 0          | 0        | 0          | 0        | 6         | 0        | 0         | 0        | 6        | 0         |
| Independent extracurricular tasks |  |            |            |          |            |          |           |          |           |          |          |           |
| 1                                 | extracurricular tasks                            | 44         | 0          | 0        | 0          | 0        | 44        | 0        | 0         | 0        | 0        | 44        |
| <i>Total (full-time course )</i>  |  | <i>210</i> | <i>128</i> | <i>0</i> | <i>128</i> | <i>0</i> | <i>82</i> | <i>0</i> | <i>32</i> | <i>0</i> | <i>6</i> | <i>44</i> |