

# SYLLABUS

## 1. General information on the course

<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>	Medical Institute. Department of Pediatrics
<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>Semester</b>	5 weeks during the 12th semester
<b>Workload</b>	The volume is 6 credits. ECTS, 180 hours, of which 110 hours is contact work with the teacher (110 hours of practical classes) and 70 hours of independent work - individual work
<b>Language(s)</b>	English

## 2. Place in the study programme

<b>Relation to curriculum</b>	Compulsory course available for study programme "Medicine"
<b>Prerequisites</b>	Krok-1, 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

<p><b>Module 1. Differential diagnosis of the most common respiratory diseases 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 different clinical variants and complications of pneumonia in children. Data from 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. Tactics of patient management in different clinical variants of pneumonia and its complications. Emergency care for acute respiratory failure depending on the cause and severity. Prevention of pneumonia and its complications in children.</p>
<p>Topic 2 Differential diagnosis of bronchial obstruction syndrome in children. Emergency care for asthmatic status</p> <p>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. 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.</p>
<p>Topic 3 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, aplasia and hypoplasia of the lungs, surfactant deficiency).</p>
<p><b>Module 2. Differential diagnosis of the most common diseases of the circulatory system in children. Emergency care for major emergencies.</b></p>
<p>Topic 4 Differential diagnosis of cardiomegaly in children. Emergency care for acute heart failure.</p> <p>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. 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. Emergency care in acute heart failure. Treatment and prevention of chronic heart failure.</p>

Topic 5 Differential diagnosis of heart rhythm and conduction disorders in children. Emergency care for paroxysmal arrhythmias and Morgan-Adams-Stokes syndrome.

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 atrio-ventricular block. 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 6 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, 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. 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.

**Module 3. Differential diagnosis of the most common diseases of the digestive system in children. Emergency care for major emergencies.**

Topic 7 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, gastric and duodenal ulcers, crosacidosis, mucosacidase insufficiency) , nonspecific ulcerative colitis). 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. Tactics of managemen 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 8 Differential diagnosis of diseases of the hepatobiliary system and pancreas in children. Emergency care for acute liver failure. Portal hypertension syndrome.

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 management of patient with biliary dyskinesias, acute and chronic cholecystitis, acute and chronic pancreatitis and chronic hepatitis in children. 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.

**Module 4. Differential diagnosis of the most common diseases of the urinary system in children. Emergency care for major emergencies.**

Topic 9 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 and inflammatory diseases of the urinary system (urinary tract infections, urethritis, cystitis, pyelonephritis), dysmetabolic nephropathy, hereditary tubulopathies, phosphate diabetes, Debre de Tony-Fanconi syndrome, renal diabetes mellitus, renal tubular acidosis) and interstitial nephritis in children. Clinical variants of the course and complications of infectious-inflammatory diseases of urinary system, interstitial nephritis, dysmetabolic nephropathy and hereditary tubulopathy 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. 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 10 Differential diagnosis of glomerulonephritis in children. Acute and chronic renal failure in children.

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. Nephrotic syndrome in children: differential diagnosis, complications. Clinical variants of chronic glomerulonephritis in children. Indications for kidney biopsy in children. Tactics of managing a sick child with acute and chronic glomerulonephritis. Acute kidney damage (acute renal failure) in children: etiology, pathogenesis, clinical and laboratory symptoms, differential diagnosis, emergency care, tactics of sick children. Chronic kidney disease in children: leading clinical and laboratory symptoms and syndromes, differential diagnosis, treatment tactics and prevention.

**Module 5. Differential diagnosis of the most common diseases of the endocrine system in children. Emergency care for major critical conditions.**

<p>Topic 11 Differential diagnosis of diabetes mellitus in children. Treatment.</p> <p>Diagnosis, differential diagnosis, treatment, prevention, prognosis of diabetes mellitus in children. Insulin therapy.</p>
<p>Topic 12 Complications of diabetes mellitus in children.</p> <p>Acute complications of diabetes. Differential diagnosis, emergency care and prevention. Late complications of diabetes in children.</p>
<p>Тopic 13 Диференційна діагностика захворювань щитовидної залози у дітей</p> <p>Класифікація захворювань щитовидної залози у дітей. Диференціальна діагностика, лікування, профілактика дифузного токсичного зобу, гіпотиреозу, вродженого гіпотиреозу, аутоімунного тиреоїдиту, ендемічного зобу у дітей. Ступені зобу. Невідкладна допомога при тиреотоксичній кризі у дітей. Прогноз.</p>
<p>Topic 14 Diseases of the hypothalamic-pituitary system and gonads in children</p> <p>Etiology, pathogenesis, classification, clinic, diagnosis, differential diagnosis, treatment, prevention, prognosis of growth pathology and pathology of the gonads in children.</p>
<p>Topic 15 Differential diagnosis of adrenal gland diseases in children.</p> <p>Acute and chronic adrenal insufficiency in children. Features of the clinic, diagnosis. Differential diagnosis. Adrenogenital syndrome. Addison's crisis.</p>
<p><b>Module 6. Differential diagnosis of the most common blood diseases in children. Emergency care for major critical conditions.</b></p>
<p>Topic 16 Differential diagnosis of anemia in children</p> <p>Etiopathogenesis. Classification. Features of clinical manifestations, diagnosis and differential diagnosis of anemia in children. Treatment. Emergency care for bleeding.</p>
<p>Topic 17 Differential diagnosis and principles of treatment of hemoblastosis in children.</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>Topic 18 Differential diagnosis of diseases with hemorrhagic syndrome in children</p> <p>DIC syndrome, hemorrhagic vasculitis, hemophilia, thrombocytopenia and thrombocytopathy in children. Differential diagnosis. Treatment. Emergency care for bleeding and hemorrhagic conditions that need treatment. Forecast.</p>
<p><b>Module 7. Differential diagnosis of diseases of newborns. Emergency care.</b></p>
<p>Topic 19 Perinatal CNS damage of hypoxic origin. Resuscitation of newborns.</p> <p>Asphyxia of newborns. Criteria for multiple organ failure in neonatal asphyxia. Early and late complications of neonatal asphyxia. Laboratory diagnosis of neonatal asphyxia. Differential diagnosis of neonatal asphyxia. Resuscitation measures in the delivery room. The concept of neonatal encephalopathy, classification. Nursing newborns who have suffered asphyxia.</p>

Topic 20 Perinatal CNS injuries. Childbirth trauma.

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

Topic 21 Respiratory diseases in newborns. Differential diagnosis of respiratory disorders in newborns.

Classification and typical clinical picture of infectious and non-infectious diseases of the respiratory system in newborns. Differential diagnosis of the most common lung diseases in newborns. Principles of treatment (depending on the severity of respiratory disorders), rehabilitation and prevention of respiratory diseases in newborns. Emergency care for major emergencies in newborns with respiratory diseases.

Topic 22 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 23 Differential diagnosis of purulent-inflammatory diseases in newborns. Newborn sepsis Neonatal infections. Perinatal infections. Intrauterine infection, intrauterine infection. Local infection: omphalitis, pyoderma, vesiculopustulosis, neonatal vesicles. Systemic infection. Generalized infection. Sepsis: septicemia, septicopyemia. Methods of examination and algorithm for assessing the condition of the newborn with signs of infectious disease immediately after birth and signs of further course of the disease during a systematic medical examination. Differential diagnosis. Treatment of infectious diseases in newborns.

Topic 24 Differential diagnosis of jaundice in newborns.

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.

Topic 25 Premature babies and babies born with low body weight.

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

**Module 8. Integrated management, differential diagnosis of diseases of children of different ages. Diagnosis of coma in children and emergency care in major emergencies.**

Topic 26 Differential diagnosis of the most common diseases of children in the first five years of life.

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. Differential diagnosis of the most common deficient conditions (malnutrition, malabsorption, dehydration, rickets, iron deficiency anemia), allergic conditions in young children. Assessment, differential diagnosis, treatment, consultation and follow-up for cough, shortness of breath, stenotic laryngotracheitis, croup, ear problems, sore throat, fever, diarrhea, eating disorders and anemia, acetonemic syndrome, in the presence of HIV in children under the age of 5 years.

Topic 27 Features of medical observation of adolescents with somatic pathology. Differential diagnosis of arterial hypertension. Differential diagnosis of coma in children.

Features of medical supervision of children adolescence with somatic pathology ( respiratory, digestive, circulatory, urinary systems, endocrine and hematopoietic systems). Syndrome child abuse. 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. Diagnosis of comatose syndrome.

### **Module 9. Differential credit**

Topic 28 Differential credit.

The differential test consists of a written answer to 3 questions. In the case of quarantine restrictions, the differential test is made in remote mode using the platform Mix.sumdu.edu.ua, Zoom, Google meet. Credit duration - 2 academic hours.

## **5. Intended learning outcomes of the course**

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

LO1	The higher education seeker will be able to: acquire survey skills to clarify important anamnestic data, informative subjective and objective examination of the patient. Justify and apply clinical methods to understand the manifestations of the disease in childhood.
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	Be able to determine the tactics of management of patients with various pathological conditions
LO4	To master the main classes of pharmacological drugs used in pediatric practice, to apply appropriate clinical and pharmacological principles for the management of pediatric patients, to calculate the doses of drugs for children.
LO5	Carry out in practice the differential diagnosis of the main syndromes that occur in the clinic of emergencies 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	Justify the use of basic invasive and non-invasive diagnostic methods, be able to perform medical manipulations
LO8	Demonstrate mastery of moral and deontological principles of a medical specialist and the principles of professional subordination.

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

Programme learning outcomes achieved by the course.

For 222 Medicine:

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.



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.
PO13	Organize medical and evacuation measures among the population and servicemen, in emergency situations and hostilities, including in the field, during the detailed stages of medical evacuation, taking into account the existing system of medical and evacuation support.
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. Teaching and learning activities

### 7.1 Types of training

<p><b>Topic 1. Differential diagnosis of pneumonia in children. Complications of pneumonia. Emergency care for acute respiratory failure in children.</b></p> <p>pr.tr.1 ""Differential diagnosis of pneumonia in children."" (full-time course)</p> <p>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).</p>
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

pr.tr.2 "Complications of pneumonia in children." (full-time course)

Leading clinical symptoms and syndromes in complications of pneumonia in children, data from laboratory and instrumental studies in complications of pneumonia (pleurisy, abscess, pyothorax, pneumothorax). Establishing a preliminary diagnosis. Differential diagnosis of pneumonia complications in children. The study of this topic involves application of simulation tools (radiographs), virtual simulation (viewing) films, computer tomograms on the specified pathology) with the subsequent discussion. Tactics of patient management in different clinical variants of pneumonia complications, prevention of complications according to the position of evidence-based medicine.

pr.tr.3 "Emergency care for acute respiratory failure in children." (full-time course)

Causes and severity of acute respiratory failure in children. Emergency care for acute respiratory failure, according to evidence-based medicine, depending on the cause and severity. When studying this topic role-playing games, team-based learning (TBL) are provided, both in offline and online classes, films on the topic of emergencies in children are used.

**Topic 2. Differential diagnosis of bronchial obstruction syndrome in children. Emergency care for asthmatic status**

pr.tr.4 "Differential diagnosis of bronchial obstruction syndrome in children." (full-time course)

Leading clinical symptoms and syndromes in acute bronchitis, bronchiolitis and acute obstructive bronchitis in children. Differential diagnosis of bronchial obstruction, stenotic laryngotracheitis, foreign body in the respiratory tract. 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. The study of this topic involves work in the classroom, the use of virtual simulation (watching movies with techniques functional and instrumental study of the respiratory system (respiratory tests, chest radiography, ultrasound, capnography, scintigraphy, spirometry, spirometry, peak flowmetry)) with further discussion. In addition, when the study of this system involves role-playing games, work in a simulation center with performance of respiratory tests, peak flowmetry. Interpretation of the obtained research data functions of external respiration (spirometry, peak flowmetry), radiological and ultrasound examination of the chest in specialized departments medical institution (according to the agreement on cooperation between the medical institution and university).

pr.tr.5 "Treatment of bronchoobstructive syndrome." (full-time course)

Tactics of patient management in different clinical variants of bronchoobstructive syndrome, according to the positions of evidence-based medicine. Prevention of bronchial asthma and bronchial obstruction syndrome on the background of acute respiratory diseases in children of different ages.

pr.tr.6 "Tactics of patient management with complications of bronchoobstructive syndrome in children" (full-time course)

Differential diagnosis of bronchial asthma and severe bronchial obstruction syndrome. Emergency care for asthma attacks and asthmatic status in children of different ages, according to the position of evidence-based medicine. The lesson is conducted using a virtual simulation (watching a movie about asthmatic status).

**Topic 3. Differential diagnosis of hereditary, congenital and chronic diseases of the bronchopulmonary system in children**

pr.tr.7 "Leading clinical symptoms and syndromes of chronic, congenital and hereditary 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, bronchomalacia, aplasia and hypoplasia of the lungs, alpha 1 - antitrypsin deficiency, bronchopulmonary dysplasia, lung sequestration) in children. Data from laboratory and instrumental studies in chronic bronchitis, bronchiectasis, hereditary and congenital diseases of the bronchopulmonary system and their complications. The lesson is conducted using a virtual simulation (watching movies), thematic role-playing game.

pr.tr.8 "Differential diagnosis, treatment of chronic, hereditary and congenital diseases of the bronchopulmonary system in children" (full-time course)

Differential diagnosis of chronic, hereditary and congenital diseases of the bronchopulmonary system in children. Tactics of patient management in hereditary, congenital and chronic diseases of the bronchopulmonary system and their complications in children. Prevention of hereditary, congenital and chronic diseases of the bronchopulmonary system in children according to the measures of evidence-based medicine. The case-based learning (CBL) method can be used to study the topic.

**Topic 4. Differential diagnosis of cardiomegaly in children. Emergency care for acute heart failure.**

pr.tr.9 "Cardiomegaly in children" (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. The lesson is conducted using a virtual simulation (watching a movie), studying the ECG, Echo-CG, radiographs.

pr.tr.10 "Acute heart failure. Chronic heart failure." (full-time course)

Signs of acute heart failure. Causes and clinical manifestations, severity of chronic heart failure. . Emergency care in acute heart failure. Treatment and prevention of chronic heart failure, according to evidence-based medicine.

pr.tr.11 "Differential diagnosis and tactics of treatment of cardiomegaly in children" (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. The lesson is conducted with the use of virtual simulation (watching movies), thematic role-playing games ("sick child", "parents", "doctor").

**Topic 5. Differential diagnosis of heart rhythm and conduction disorders in children. Emergency care for paroxysmal arrhythmias and Morgan-Adams-Stokes syndrome.**

pr.tr.12 "Emergency care for paroxysmal tachycardia, atrial fibrillation, Morgan-Adams-Stokes syndrome in children." (full-time course)

Emergency care for paroxysmal tachycardia, atrial fibrillation, Morgan-Adams-Stokes syndrome in children. Prevention of cardiac arrhythmias and conduction in children.

pr.tr.13 "Cardiac arrhythmias and conduction 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 atrio-ventricular block. The study of this topic involves theoretical work in the school room. Work in the simulation center and profile departments of the medical institution (conducting and interpretation of the obtained data of the study of FCG, ECG, functional samples, X-ray and ultrasound examination of the heart (according to the agreement on cooperation between the medical institution and the university). Tactics of patient management with extrasystole, paroxysmal tachycardia, atrial fibrillation, complete atrioventricular block in children from the standpoint of evidence-based medicine.

**Topic 6. Differential diagnosis of systemic connective tissue diseases and systemic vasculitis in children.**

pr.tr.14 "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. Work in the simulation center and profile department of the medical institution (according to the agreement on cooperation between the medical institution and the university).

pr.tr.15 "Differential diagnosis of systemic connective tissue diseases, arthritis in children. Treatment." (full-time course)

Differential diagnosis of systemic connective tissue diseases in children. Differential diagnosis of joint syndrome in children. Juvenile rheumatoid arthritis, reactive arthritis. Joint hypermobility syndrome. 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 from the standpoint of evidence-based medicine.

**Topic 7. Differential diagnosis of functional and organic diseases of the stomach and intestines in children**

pr.tr.16 "Functional and organic diseases of the upper digestive tract in children." (full-time course)

Differential diagnosis of functional (cyclic vomiting syndrome, functional dyspepsia) and organic (chronic gastritis, chronic gastroduodenitis, gastric ulcer and duodenal ulcer) diseases of the upper digestive tract in children. The study of this topic involves theoretical work in teaching room, the use of virtual simulation (watching movies with a demonstration of clinical manifestations of major diseases and syndromes) with further discussion. In addition, when the study of this topic involves role-playing games, skills development palpation, percussion and auscultation when working at the patient's bedside in the profile department (in the absence of quarantine restrictions), watching movies with a demonstration of clinical manifestations major diseases and syndromes, 3-D virtual endoscopy) with subsequent discussion of the examination and treatment plan. Tactics of children with functional and organic diseases of the upper digestive tract in children. Prevention of peptic ulcer disease and its complications. Providing emergency care in case of complicated peptic ulcer disease in children from the standpoint of evidence-based medicine.

pr.tr.17 "Differential diagnosis of functional and organic diseases of the intestine in children. Principles of treatment for functional and organic diseases of the intestine." (full-time course)

Differential diagnosis of functional (abdominal pain, irritable bowel syndrome, functional constipation) and organic (nonspecific ulcerative colitis) intestinal diseases in children. The lesson is conducted with the use of virtual simulation (movie viewing), thematic role-playing games ("sick child", "parents", "doctor"). Tactics of children management with functional and organic diseases of the intestine, according to the position of evidence-based medicine.

pr.tr.18 "Differential diagnosis of primary and secondary disorders of intestinal absorption in children." (full-time course)

Differential diagnosis of primary (disaccharide deficiency, exudative enteropathy (celiac disease, cystic fibrosis) and secondary (chronic enteritis, enterocolitis) disorders of intestinal absorption in children. Tactics of leading children in primary and secondary syndrome of intestinal absorption disorders from the standpoint of evidence-based medicine. The study of the topic involves the use of Research-based learning (RBL).

**Topic 8. Differential diagnosis of diseases of the hepatobiliary system and pancreas in children. Emergency care for acute liver failure. Portal hypertension syndrome.**

pr.tr.19 "Biliary dyskinesias, acute and chronic cholecystitis in children. Acute and chronic pancreatitis in children." (full-time course)

Differential diagnosis of biliary dyskinesias, acute and chronic cholecystitis children. Tactics of management of sick children at miliary dyskinesias, acute and chronic cholecystitis. Prevention of biliary dyskinesias, acute and chronic cholecystitis in children. Differential diagnosis of acute and chronic pancreatitis in children. Management of sick children with acute and chronic pancreatitis. Prevention of acute and chronic pancreatitis in children.

pr.tr.20 "Differential diagnosis of chronic hepatitis in children. Emergency care for acute liver failure and portal hypertension syndrome." (full-time course)

Differential diagnosis of chronic hepatitis in children. Tactics of patient management at chronic hepatitis in children. Prevention of chronic hepatitis and portal hypertension in children. Emergency care for acute liver failure and complications portal hypertension syndrome according to evidence-based medicine. The lesson involves the use of Team-based learning (TBL).

**Topic 9. 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.21 "Infectious and inflammatory diseases of the urinary system in children. Differential diagnosis." (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. Differential diagnosis of the most common infectious and inflammatory diseases of the urinary system, interstitial nephritis, dysmetabolic nephropathy and hereditary tubulopathies in children. Study of this topic involves theoretical work in the classroom, interpretation of the data laboratory tests, endoscopic examination, X-ray and ultrasound examination of the urinary organs in the departments of the child hospital (according to the agreement on cooperation between the medical institution and the university). Work at the patient's bedside.

pr.tr.22 "Acute urinary retention. Emergency care for acute urinary retention. Treatment of infectious and inflammatory diseases of the urinary system in children." (full-time course)

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 from the standpoint of evidence-based medicine. Prevention of urethritis, cystitis, pyelonephritis. The case-based learning (CBL) method can be used to study the topic.

**Topic 10. Differential diagnosis of glomerulonephritis in children. Acute and chronic renal failure in children.**

pr.tr.23 "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. Nephrotic syndrome in children: differential diagnosis, complications. Clinical variants of chronic glomerulonephritis in children. Indications for kidney biopsy in children. Tactics of managing a sick child with acute and chronic glomerulonephritis according to the positions of evidence-based medicine.

pr.tr.24 "Acute and chronic renal failure in children." (full-time course)

Acute kidney damage (acute renal failure) in children: etiology, pathogenesis, clinical and laboratory symptoms, differential diagnosis, emergency care, tactics of management of sick children. Chronic kidney disease in children: leading clinical and laboratory symptoms and syndromes, differential diagnosis, treatment tactics and prevention.

### **Topic 11. Differential diagnosis of diabetes mellitus in children. Treatment.**

pr.tr.25 "Diabetes mellitus in children. Differential diagnosis of hyperglycemia." (full-time course)

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. The case-based learning (CBL) method can be used to study the topic.

### **Topic 12. Complications of diabetes mellitus in children.**

pr.tr.26 "Differential diagnosis of complications of diabetes mellitus in children." (full-time course)

Acute complications of diabetes. Ketoacidotic and hypoglycemic coma, hyperosmolar non-acidotic, lactic acidotic coma: differential diagnosis, emergency care and prevention. Forecast. Late complications of diabetes in children. The study of this topic involves theoretical work in the school room, interpretation of the obtained laboratory data, endoscopic examination, X-ray and ultrasound examination of the urinary organs in branches of a medical institution (according to the agreement on cooperation between medical institution and university). Work at the patient's bedside.

### **Тopic 13. Диференційна діагностика захворювань щитовидної залози у дітей**

pr.tr.27 "Thyroid disease in children. Differential diagnosis." (full-time course)

Classification of thyroid diseases in children. Etiopathogenesis, clinic (leading symptoms of thyroid dysfunction) diagnosis, differential diagnosis, treatment, prevention of diffuse toxic goiter, hypothyroidism, autoimmune thyroiditis, endemic goiter in children from the standpoint of evidence-based medicine. Degrees of goiter. Emergency care for thyrotoxic crisis in children. Forecast.

### **Topic 14. Diseases of the hypothalamic-pituitary system and gonads in children**

pr.tr.28 "Differential diagnosis of diseases of the hypothalamic-pituitary system and gonads in children" (full-time course)

Differential diagnosis of diseases of the hypothalamic-pituitary system and gonads in children. Treatment, prevention of various clinical forms of growth pathology (exogenous-constitutional, pituitary, somatogenous); obesity (exogenous-constitutional, hypothalamic), pubertal dyspituitarism in children, various forms of pathology of the gonads in children (congenital disorders of sexual differentiation, disorders of sexual development in boys and girls). Forecast. The study of this topic involves theoretical work in the school room, interpretation of the obtained laboratory data, endoscopic examination, X-ray and ultrasound examination of the urinary organs in branches of a medical institution (according to the agreement on cooperation between medical institution and university). Work at the patient's bedside.

### **Topic 15. Differential diagnosis of adrenal gland diseases in children.**

pr.tr.29 "Differential diagnosis of diseases of the cortex and cerebral layer of the adrenal glands in children. Treatment, emergency care for critical conditions." (full-time course)

Hypercorticism, hypocorticism, dysfunction of the adrenal cortex (adreno-genital syndrome), pheochromocytoma, pheochromoblastoma. Differential diagnosis. Principles of treatment. Congenital dysfunction of the adrenal cortex (adrenogenital syndrome, congenital virilizing hyperplasia of the adrenal cortex); forms of ADHS (simple viril, silutratny, hypertensive (nonclassical), postpubertal (nonclassical) form). Criteria for diagnosis, treatment, intensive treatment of silurate form of ADHS according to the positions of evidence-based medicine. The case-based learning (CBL) method can be used to study the topic.

pr.tr.30 "Acute and chronic adrenal insufficiency. Differential diagnosis, treatment, emergency care." (full-time course)

Acute adrenal insufficiency (Waterhouse-Friedrichsen syndrome), its clinical variants: cardiovascular, gastrointestinal, neuropsychiatric; diagnostic criteria, differential diagnosis, emergency therapy, treatment. Criteria for the diagnosis of chronic adrenal insufficiency; chronic insufficiency of the adrenal cortex (Addison's disease), differential diagnosis, treatment of Addison's crisis.

### **Topic 16. Differential diagnosis of anemia in children**

pr.tr.31 "Anemia in children (iron deficiency, B 12 - deficient, folate deficient, hemolytic anemia). Differential diagnosis." (full-time course)

General characteristics of anemic syndrome, pathophysiological mechanisms of iron-, protein-, vitamin-deficiency anemia, risk groups for deficiency anemia, characteristics of the main clinical symptoms of iron-, protein-, B12 -, folate deficiency anemia, 7. criteria for the diagnosis of iron deficiency and B12 -, folate deficiency anemia, basic laboratory parameters, auxiliary instrumental methods used for diagnostic purposes. Differential diagnosis of anemia in children, basic clinical and laboratory differential diagnostic criteria for anemia of unknown origin. Principles of treatment of deficiency anemias. Emergency care for acute blood loss. Prevention of deficiency anemias. Hemolytic anemias: differential diagnosis, emergencies. Hemolytic crisis.

### **Topic 17. Differential diagnosis and principles of treatment of hemoblastosis in children.**

pr.tr.32 "Hemoblastosis in children." (full-time course)

The main manifestations of hemoblastosis depending on the primary morphological substrate of the lesion, modern ideas about the etiopathogenesis of acute lymphoblastic leukemia, acute myeloblastic leukemia, chronic myeloblastic leukemia, lymphogranulomatosis (LGM), non-Hodgkin's lymphoma; analysis of the typical clinical picture of acute lymphoblastic leukemia, acute myeloblastic leukemia, chronic myeloblastic leukemia, lymphogranulomatosis (LGM), non-Hodgkin's lymphoma (NHL) (Burkett's lymphoma). Analysis of laboratory and instrumental examinations for hemoblastosis in children. Differential diagnosis of different variants of leukemia, Hodgkin's and non-Hodgkin's lymphoma. The study of this topic involves theoretical work in the school room, interpretation of the obtained data of laboratory tests, X-ray and ultrasound examination in branches of a medical institution (according to the agreement on cooperation between medical institution and university). Treatment, rehabilitation and prevention of recurrences in hemoblastosis from the standpoint of evidence-based medicine; life prognosis for hemoblastosis. Moral and deontological principles of a medical specialist in the department of pediatric oncohematology.



**Topic 18. Differential diagnosis of diseases with hemorrhagic syndrome in children**

pr.tr.33 "Hemorrhagic diseases in children. Differential diagnosis." (full-time course)

.Hereditary and acquired hemorrhagic diseases in children (pathophysiological mechanisms of hemophilia A and B, thrombocytopeny, ITP, Glanzman's thrombasthenia, Willebrand's disease. Clinical manifestations and criteria for laboratory diagnosis of hemorrhagic diseases; , prevention and monitoring of patients with hemophilia, Willebrand's disease, principles of treatment of acute and chronic forms of ITP, indications for transfusions of platelet concentrate and erythrocyte mass. The concept of vasopathy, hemorrhagic vasculitis Shenlein-Genoch. DIC syndrome. The case-based learning (CBL) method can be used to study the topic.

**Topic 19. Perinatal CNS damage of hypoxic origin. Resuscitation of newborns.**

pr.tr.34 "Fetal hypoxia, neonatal asphyxia." (full-time course)

Features of the functioning of the respiratory system, cardiovascular system, central nervous system after birth. Asphyxia. Development mechanisms. Apgar scale. The severity of neonatal asphyxia. The main diagnostic sign of asphyxia (metabolic, mixed acidosis, deficiency of bases - BE). Pathogenesis of asphyxia: compensation mechanisms; general systemic response syndrome; multiorgan failure syndrome; decompensation - the development of asphyxiating shock. Early complications of asphyxia: cerebral edema, convulsions, cerebral hemorrhage, aspiration syndrome, apnea attack, persistent fetal circulation, polycythemic syndrome, thrombosis, posthemorrhagic shock, hypoglycemia, heart rhythm disorders. Differential diagnosis. Study of this topic provides theoretical work in the classroom, practical work with a phantom (doll) to simulate primary care for a newborn with asphyxia, in the absence of quarantine, in the neonatal department (according to the agreement on cooperation between the hospital and the university).

pr.tr.35 "Resuscitation care for the newborn. Treatment of the consequences of neonatal asphyxia." (full-time course)

Initial medical care for a newborn. Assessment of the condition of the newborn during medical care assistance. Assessment of oxygenation. Indications for resuscitation. Algorithm of resuscitation care for a newborn. Post-resuscitation care. Treatment of seizures in newborns. Ensuring the stability of hemodynamics from the standpoint of evidence-based medicine. Working with a phantom.

**Topic 20. Perinatal CNS injuries. Childbirth trauma.**

pr.tr.36 "Perinatal injuries of the central nervous system. Differential diagnosis. Therapy." (full-time course)

General signs of perinatal pathology of the nervous system in newborns. Encephalopathy: classification, main clinical symptoms and syndromes, laboratory and instrumental studies, differential diagnosis, principles of treatment, prognosis, syndromes of early and late recovery periods, and the period of residual phenomena.

pr.tr.37 "Пологова травма. Диференційна діагностика пологових травм." (full-time course)

Класифікація, причини, клінічні прояви, діагноз та диференціальна діагностика пологових травм м'яких тканин, кісток, внутрішньочерепних та травм периферійної нервової системи. Лікування пологових уражень головного мозку з позиції доказової медицини.

**Topic 21. Respiratory diseases in newborns. Differential diagnosis of respiratory disorders in newborns.**

pr.tr.38 "Respiratory distress syndrome (RDS)." (full-time course)

Respiratory distress syndrome type I. Respiratory distress syndrome type II (adult type) - acute respiratory distress syndrome. What is the difference between the concepts of "respiratory disorders" (RD) and "respiratory distress syndrome" (RDS)? Assessment of the clinical severity of respiratory disorders. Surfactant system. Classification of clinical forms of RD in newborns: pulmonary (non-infectious, infectious), extrapulmonary (cardiac, neurological, metabolic, hematological, gastrointestinal, infectious, hypothermia, congenital hyperthyroidism). RD clinic. RD assessment methodology (Downes, Silverman-Anderson). Diagnosis (antenatal, postnatal). Differential diagnosis. Basic principles of providing medical care to newborns with RD. Forecast. The case-based learning (CBL) method can be used when studying the topic.

pr.tr.39 "Clinical picture of various manifestations of respiratory disorders in newborns. Differential diagnosis of respiratory disorders in newborns." (full-time course)

Respiratory distress syndrome (RDS). Edema-hemorrhagic syndrome. Atelectasis. Differential - diagnostic signs of the listed RD of newborns. Transient tachypnea

**Topic 22. Hemorrhagic disorders in newborns. Differential diagnosis. Hemorrhagic disease of newborns**

pr.tr.40 "Differential diagnosis of hemorrhagic disorders in newborns. Hemorrhagic disease of newborns." (full-time course)

Differential diagnosis of hemorrhagic disorders in newborns. Hemorrhagic disease of newborns. DIC syndrome. Tactics management of a newborn child with the syndrome. Prevention of hemorrhagic disorders in newborns. Emergency care for bleeding in newborns.

**Topic 23. Differential diagnosis of purulent-inflammatory diseases in newborns. Newborn sepsis**

pr.tr.41 "Intrauterine infections. Differential diagnosis. Therapy. Differential diagnosis of local infections of newborns. Treatment." (full-time course)

TORCH - infections. Intrauterine infection, Intrauterine infection. Differential diagnosis. Treatment. Local infections (omphalitis, infectious diseases of the skin and subcutaneous tissue: neonatal impetigo, vesiculopustulosis, neonatal vesicles, streptoderma, Figner 's pseudofurunculosis, neonatal mastitis, necrotic neonatal phlegmon, clinical manifestations. Clinical manifestations.

pr.tr.42 "Systemic infections. Differential diagnosis, treatment, prevention. Generalized infections of newborns: neonatal sepsis." (full-time course)

Systemic infections: neonatal pneumonia, neonatal meningitis, osteomyelitis (diagnosis, differential diagnosis, treatment: antibiotic therapy, seizures, etc., according to evidence-based medicine), prognosis. Generalized infections: neonatal sepsis (early, late), etiopathogenesis, septicemia, septicopias, modern diagnosis, differential diagnosis. Treatment of neonatal sepsis (directions of treatment in the acute period), according to the position of evidence-based medicine, prognosis.

**Topic 24. Differential diagnosis of jaundice in newborns.**

pr.tr.43 "Neonatal jaundice. Causes. Differential diagnosis of physiological and pathological jaundice. Principles of treatment." (full-time course)

Neonatal, physiological, early, prolonged jaundice - a concept. Pathogenetic classification of jaundice. Leading clinical symptoms and syndromes in children with jaundice in the neonatal period. Complications of jaundice in newborns. Data from laboratory and instrumental studies in the diagnosis of hemolytic, conjugative and mechanical jaundice in newborns. Differential diagnosis of jaundice in newborns. Tactics of management of newborns with manifestations of jaundice.

pr.tr.44 "Neonatal hemolytic disease (erythroblastosis). Differential diagnosis. Treatment." (full-time course)

Types (rhesus - and AB0 incompatibility), etiopathogenesis of development, diagnosis, clinical forms (edema, jaundice, anemia, mixed), differential diagnosis, complications (bile thickening syndrome, cholestasis, bilirubin encephalopathy, nuclear jaundice). Treatment (principles of phototherapy, indications for surgical treatment - replacement blood transfusion), according to the protocol of care for newborns with jaundice. Forecast. Prevention of HDN. The study of this topic involves theoretical work in the classroom, the use of virtual simulation (watching a movie with a demonstration of phototherapy and surgical treatment of HDN).

#### **Topic 25. Premature babies and babies born with low body weight.**

pr.tr.45 "Premature babies and babies born with low body weight." (full-time course)

Modern definition of prematurity and its degrees depending on gestational age (GA), the conceptual age of a premature baby. Conditions characteristic of premature infants. Features of the neonatal period and diseases (pneumonia, meningitis, sepsis) in premature infants. Characteristics of newborns with intrauterine growth retardation (IUGR). Differential diagnosis of prematurity and IUGR.

#### **Topic 26. Differential diagnosis of the most common diseases of children in the first five years of life.**

pr.tr.46 "Strategy of integrated management of early childhood diseases." (full-time course)

Strategy of integrated management of childhood diseases and its purpose. General signs of danger of the child's condition: convulsions during the examination or in the anamnesis, refusal to eat (including breastfeeding), vomiting after any food or drink. Rating, classification, treatment, consultation and follow-up in children under 2 months of age jaundice, diarrhea, feeding problems and low body weight, extremely severe disease and local bacterial infection. Outpatient management of infants aged 0 to 2 months. Assessment of sick infants: check for possible bacterial infection; whether the baby has diarrhea; checking for feeding problems or low weight; checking the vaccination status of the baby; assessment of other issues.

pr.tr.47 "Skin allergies in children. Differential diagnosis of cough syndrome in children from 2 months to 5 years." (full-time course)

Differential diagnosis of skin allergies in children. Differential diagnosis of conditions in children accompanied by cough. The presence or absence of the main symptoms of cough or difficulty breathing: respiratory rate, retraction of the lower chest, stridor at rest, asthma breathing. Conditions accompanied by cough or shortness of breath: "severe pneumonia or very severe illness", "presumably pneumonia", "cough or acute respiratory illness (bronchitis, bronchiolitis, laryngotracheitis)". . Acute respiratory disease COVID19. Differential diagnosis of cyanosis syndrome and chronic cough. Chronic bronchopulmonary diseases in children. Leading clinical symptoms and syndromes in different clinical variants of bronchopulmonary dysplasia in children. Data from laboratory and instrumental studies in bronchopulmonary dysplasia. Establishing a preliminary diagnosis. Tactics of patient management in bronchopulmonary dysplasia according to evidence-based medicine. Prevention of bronchopulmonary dysplasia in children. The case-based learning (CBL) method can be used to study the topic.

pr.tr.48 "Acetonemic syndrome. Diarrhea. Differential diagnosis." (full-time course)

Acetonemic syndrome in children. Differential diagnosis of acetonemic vomiting. Assessment of the condition of a child with diarrhea: duration of diarrhea, the presence of blood in the stool, dehydration. Differential diagnosis of diarrhea with the presence of blood in the stool. Differential diagnosis of severity and type of dehydration. Treatment of dehydration, correction of water-electrolyte imbalance, intensive treatment of severe dehydration according to evidence-based medicine.

pr.tr.49 "Keeping a child with throat and ear problems." (full-time course)

Differential diagnosis of viral and bacterial throat problems. Signs of throat disease in children: plaque on the tonsils, enlarged anterior cervical lymph nodes, a history of fever, no cough. Differential diagnosis. Conditions for the appointment of antibiotics. Clinical assessment of ear problems: painful swelling behind the ear (mastoiditis), ear pain, purulent discharge from the ear (acute ear infection, chronic ear infection). Differential diagnosis of ear problems. Treatment. Forecast.

pr.tr.50 "Fever in children. Sudden death syndrome." (full-time course)

Classification of fever in children. Assessment of a child with fever on the basis of: occipital muscle rigidity, duration of fever (up to 5 days, more than 5 days), assessment on the basis of current or transferred measles (during the last three months). Differential diagnosis of fever in children of the first 5 years of life. Treatment of fever in children. Sudden death syndrome in children. Cardiopulmonary resuscitation. The case-based learning (CBL) method can be used when studying the topic.

pr.tr.51 "Eating disorders and anemia in young children. Principles of treatment." (full-time course)

Clinical assessment of nutritional status by body weight to height or body weight to length according to the child's developmental schedules. Complicated severe feeding disorder. Uncomplicated severe feeding disorder or extremely low body weight. Physician's tactics for complicated and uncomplicated severe feeding disorders. Management of children with eating disorders: with severe acute malnutrition (GPC) without complications, with severe acute malnutrition with complications. Study of this topic involves theoretical work in the classroom, solving situational problems, work in the simulation center (work with centile tables) Anemia: children with severe anemia (with pronounced pallor of the palms), children with anemia (moderate pallor of the palms). Tactics of managing children with early anemia in an outpatient setting.

**Topic 27. Features of medical observation of adolescents with somatic pathology. Differential diagnosis of arterial hypertension. Differential diagnosis of coma in children.**

pr.tr.52 "Medical care for adolescents. Features of somatic pathology in adolescents." (full-time course)

Features of medical supervision of children adolescence with somatic pathology (pathology respiratory, digestive, circulatory, urinary systems, endocrine and hematopoietic systems). Rational nutrition of adolescents: prevention of obesity, diabetes. Assessment of puberty. Medical and psychological counseling. Syndrome child abuse. In the absence of quarantine, classes are held in the classroom of the children's clinic (according to the agreement on cooperation between the medical institution and the university).

pr.tr.53 "Arterial hypertension, hypotension, vegetative-vascular dysfunctions." (full-time course)

Differential diagnosis of primary and secondary arterial hypertension in adolescents. Tactics of outpatient management of a patient with hypertension. Differential diagnosis of pain syndrome in heart and hypotension. Vegetative-vascular dysfunction in children and adolescents. Providing emergency care during autonomic crises, hypertensive crisis according to the pledges of evidence-based medicine. Prevention of autonomic dysfunction and hypertension in children. Training is conducted by the method of Research-based learning (RBL).

pr.tr.54 "Differential diagnosis of coma and allergic reactions in children." (full-time course)

Determination of coma; the main factors that can lead to the development of coma in children, types of coma in children; classification of disturbances of consciousness, connection of etiology of comatose states with age of the child; diagnosis of comatose syndrome: symptoms, degrees of coma, differential diagnosis; providing first aid to a child in a coma. Allergic reactions. Quincke's edema. Anaphylactic shock. Emergency care from the standpoint of evidence-based medicine. In the absence of quarantine, classes are held in the classroom of the children's clinic (according to the agreement on cooperation between the medical institution and the university).

**Topic 28. Differential credit.**

pr.tr.55 "Differential credit" (full-time course)

Differential test consists of 3 questions, the answer to which students provide in writing. Each student receives an individual version of the questions (ticket). In the case of quarantine restrictions, the differential test is carried out in remote mode using the Mix.sumdu.edu.ua platform, Zoom, Google meet for 2 academic hours.

## 7.2 Learning activities

LA1	Preparing for Step 2 (Krok 2)
LA2	Preparation for practical classes
LA3	Self-study
LA4	Solving situational problems
LA5	E-learning in systems (Zoom, Meet, MIX.sumdu.edu.ua)
LA6	Preparation for current and final control
LA7	Preparation and presentation of the report
LA8	Solve practical problems with the help of online technologies
LA9	Preparation for certification
LA10	Watching movies
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	Practice of practical skills in the simulation center
LA13	Work with textbooks and relevant information sources

## 8. Teaching methods

Course involves learning through:

TM1	Case-based learning (CBL). Learning based on the analysis of a clinical case, situation
TM2	Brain storm
TM3	Educational discussion / debate
TM4	Educational game
TM5	Practice-oriented learning
TM6	Think-pair-share
TM7	Team-based learning (TBL). Team-oriented training
TM8	Research-based learning (RBL). Learning through research

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.

The discipline provides students with the following soft skills: LC 1. Ability to abstract thinking, analysis and synthesis. LC 2. Ability to learn, master modern knowledge and apply them in practical situations. LC 3. Knowledge and understanding subject area and understanding of professional activity. LC 4. Ability to adapt and act in the new situations. LC 5. Ability to make informed decisions; work in a team; skills interpersonal interaction. LC 7. Ability to use

information and communication technologies of the LC 8. Definiteness and persistence in relation to the set tasks and responsibilities.

## 9. Methods and criteria for assessment

### 9.1. Assessment criteria

ECTS	Definition	National scale	Rating scale
A	Outstanding performance without errors	5 (Excellent)	$90 \leq RD \leq 100$
B	Above the average standard but with minor errors	4 (Good)	$82 \leq RD < 89$
C	Generally sound work with some errors	4 (Good)	$74 \leq RD < 81$
D	Fair but with significant shortcomings	3 (Satisfactory)	$64 \leq RD < 73$
E	Performance meets the minimum criteria	3 (Satisfactory)	$60 \leq RD < 63$
FX	Fail – some more work required before the credit can be awarded	2 (Fail)	$35 \leq RD < 59$
F	Fail – considerable further work is required	2 (Fail)	$0 \leq RD < 34$

### 9.2 Formative assessment

FA1	Interviews and oral comments of the teacher on it results
FA2	Peer assessment
FA3	Solving situational problems with Step-2 (Krok-2)
FA4	Independent performance of situational exercises by students in practical classes and their discussion.
FA5	Self-assessment of current testing
FA6	Checking and evaluating written assignments
FA7	Solving clinical cases

### 9.3 Summative assessment

SA1	Evaluation of written works, surveys, solving a clinical case
SA2	Testing in the base "Kpok-2"
SA3	Defense of an individual research project (incentive activities, additional points)
SA4	Final control: differential test

Form of assessment:

<b>12 semester</b>	<b>200 scores</b>
SA1. Evaluation of written works, surveys, solving a clinical case	<b>100</b>
	100
SA2. Testing in the base "Kpok-2"	<b>20</b>

		20
SA4. Final control: differential test		<b>80</b>
		80

Form of assessment (special cases):

<b>12 semester</b>		<b>200 scores</b>
SA1. Evaluation of written works, surveys, solving a clinical case		<b>100</b>
	In case of quarantine restrictions, practical classes are conducted remotely using the platform Mix.sumdu.edu.ua, Zoom, Google mee	100
SA2. Testing in the base "Крок-2"		<b>20</b>
		20
SA4. Final control: differential test		<b>80</b>
	In the case of quarantine restrictions, the compilation of diff. offset is conducted remotely using Zoom, Google meet.	80

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 "Крок-2" the student receives a maximum of 20 points. The minimum number of points you must get a student - 12 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.

## 10. Learning resources

### 10.1 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.)
------	--------------------------------------------------------------------------------------------------------------------------------------------

## 10.2 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 [et al.]. - Edition 21. - Philadelphia, PA : Elsevier Inc., 2020. – eBook.
<b>Supplemental Reading</b>	
6	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
7	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