

**MINISTRY OF HEALTH OF UKRAINE
BOGOMOLETS NATIONAL MEDICAL UNIVERSITY**

"APPROVED"
Vice-rector for scientific, pedagogical
and educational work,
Professor O.M. Vlasenko

"29" of August, 2025

**SYLLABUS OF THE EDUCATIONAL DISCIPLINE
“PEDIATRICS WITH CHILDREN'S INFECTIOUS DISEASES
INCLUDING MEDICAL PRACTICE (PROFESSIONAL TRAINING)”
Level of higher education – second (master's)**

**Educational program -
educational and professional program of the second level of higher education
on the preparation of masters in the specialty 222 "Medicine"**

Discussed and approved by the Cyclical Methodical Commission for Pediatric
Disciplines of the O.O. Bogomolets National Medical University

Protocol No. 1 from August 29, 2025

Head and professor of the department
of Pediatrics No. 1

T.V. Pochynok

1. Abstract of the course:

The educational discipline “PEDIATRICS WITH CHILDREN'S INFECTIOUS DISEASES INCLUDING MEDICAL PRACTICE (PROFESSIONAL TRAINING)” is a mandatory component of the educational and professional program of professional training (OK25), studied by students of specialty 222 "Medicine" during the 5th year of study.

Semesters: IX - X

The educational discipline "Pediatrics, children's infectious diseases" consists of 2 modules:

Module 1 "Neonatology, diseases of the blood system and endocrine system in children"

Module 2 "Children's infectious diseases"

Scope of the academic discipline:

the total number of hours is 150, of which:

lectures - 10 hours,

practical - 80 hours,

independent work - 60 hours;

the number of ECTS credits is 5

Scope of module 1 "Neonatology, diseases of the blood system and endocrine system in children":

the total number of hours is 105, of which:

lectures - 6 hours,

practical - 60 hours,

independent work - 39 hours; of them individual work - 6 hours.

the number of ECTS credits is 3.5

Scope of module 2 "Children's infectious diseases":

the total number of hours is 45, the number of ECTS credits is 1.5.

Objective of module 1: The student's acquisition of knowledge and mastery of professional competencies in neonatology, pediatric endocrinology, pediatric hematology based on the competencies acquired during the study of disciplines - prerequisites.

The results of studying the discipline:

The student must KNOW:

- The subject area - prevention, diagnosis and treatment of diseases of newborns, endocrine and hematological diseases in children, in accordance with the requirements of the standard of higher education in the specialty 222 Medicine of the field of knowledge 22 Health care for the second (master's) level of higher education: anemia, hemolytic disease of newborns, hemophilia, leukemia, lymphomas, neonatal sepsis, idiopathic thrombocytopenic purpura, neonatal conjunctivitis, retinopathy, birth asphyxia, bronchopulmonary dysplasia, respiratory distress syndrome and pneumonia of newborns, hepatitis, stenosis of the pylorus of the stomach, gastrointestinal bleeding, purulent inflammatory diseases in newborns, specific surgical infection, congenital malformations of the musculoskeletal system, osteomyelitis, systemic vasculitis (polyarteritis nodosa, hemorrhagic vasculitis), pituitary gigantism, hypothyroidism, hypotrophy, protein-energy deficiency, hypopituitarism, thyrotoxicosis, endemic goiter, diabetes insipidus, nodular goiter, tumors of the thyroid gland, obesity, congenital dysfunction of the adrenal cortex, genetic syndromes with endocrine complications: Turner syndrome, Russell-Silver syndrome, Prader-Willi syndrome, Laron syndrome, etc.), thyroiditis, Cushing's disease and syndrome, chronic adrenal insufficiency, diabetes, adrenal tumors, organic (including congenital) hyperinsulinism, pituitary tumors, premature sexual development, hypogonadism, cryptorchidism, sex differentiation disorder, Klinefelter syndrome, dwarfism in a baby born SGA, congenital infections of the newborn, and understand occupational activities. (GC4)

The student should BE ABLE to:

- Identify the leading clinical symptoms and syndromes; according to standard methods, using the previous data of the patient's history, the data of the patient's examination, knowledge about the person, his organs and systems. Establish a preliminary clinical diagnosis of the most common diseases of newborns, endocrine and hematological diseases in children. (PLO 4)
- Collect complaints, life and disease history, evaluate 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, evaluate information about the diagnosis (blood proteins and their fractions, C-reactive protein, blood glucose, glycosylated hemoglobin, oral glucose tolerance test, blood lipids and lipoproteins and their fractions, blood hormones, ferritin, serum iron and copper, creatinine, blood and urine urea, blood electrolytes, blood aminotransferases, total blood bilirubin and its fractions, coagulogram, histomorphological examination of a lymph nodes biopsy, CBC, urine tests, sugar and acetone in urine, general

analysis of cerebrospinal fluid, general analysis of sternal punctate, serological reactions in infectious diseases, amplification methods in infectious diseases (PCR, LLR), microbiological examination of biological fluids and secretions, methods of instrumental visualization of the thyroid gland, methods of instrumental visualization of abdominal organs, methods of instrumental visualization of thoracic cavity organs, methods of instrumental visualization of the genitourinary system, methods of instrumental visualization of the skull, spine, spinal cord, bones and joints, taking into account the age of the patient. Methods of instrumental visualization of the genitourinary system, methods of instrumental visualization of the skull, spine, spinal cord, bones and joints, taking into account the age of the patient. methods of instrumental visualization of the genitourinary system, methods of instrumental visualization of the skull, spine, spinal cord, bones and joints, taking into account the age of the patient. (PLO 5)

- To establish the final clinical diagnosis by making a reasoned decision and analyzing the received subjective and objective data of clinical, additional examination, carrying out differential diagnosis, observing the relevant ethical and legal norms, under the control of the head physician in the conditions of the health care institution. (PLO 6)

- Assign and analyze additional (mandatory and optional) examination methods (laboratory, functional and/or instrumental) of patients with diseases of organs and body systems for differential diagnosis of diseases. (PLO 7)

- Determine the necessary diet based on the final clinical diagnosis, observing the relevant ethical and legal norms, by making a reasoned decision according to existing algorithms and standard schemes. (PLO 10)

- To assess the general condition of a newborn child by making a reasoned decision according to existing algorithms and standard schemes, observing the relevant ethical and legal norms. (PLO 12)

- Assess and monitor the child's development, provide recommendations on feeding and specifics of nutrition depending on age, organize preventive vaccinations according to the calendar. (PLO 13)

- Determine the tactics and provide emergency medical care in emergency situations (neonatal asphyxia, hypoglycemia (coma), acute respiratory failure, acute adrenal insufficiency (heart-losing form of ACS), diabetic coma, including ketoacidotic, acute bleeding, convulsive syndrome, shocks (septic) under conditions of limited time according to existing clinical protocols and standards of treatment. (PLO 14)

- Perform medical manipulations such as indirect heart massage, artificial respiration, install nasogastric and orogastric tubes, measure blood pressure, restore airway patency, perform skin-to-skin contact and early breast-feeding

techniques, determine blood groups, Rh-affinity, transfuse blood components and blood substitutes, take swabs for bacterioscopic, bacteriological, cytological examination, palpate the thyroid gland, conduct an examination and evaluation of the external genitalia of boys, assess the state of sexual development of children based on the previous clinical diagnosis and/or indicators of the patient's condition by making a reasoned decision, complying with relevant ethical and legal norms.(PLO 17)

- clearly and unambiguously convey one's own knowledge, conclusions and arguments on health care problems and related issues to specialists and non-specialists.(PLO 25)

The student must be ABLE to:

- Collect medical information about the patient and analyze clinical data. (PC1)
- Determine the necessary list of laboratory and instrumental studies and evaluate their results. (PC2)
- To establish the prognosis and clinical diagnosis of the disease. (PC3)
- Determine the nature of nutrition in the treatment and prevention of diseases. (PC5)
- Determine the principles and nature of treatment and prevention of diseases. (PC6)
- Diagnose emergency conditions. (PC7)
- Determine the tactics and provision of emergency medical assistance. (PC8)
- Perform medical manipulations. (PC10)
- Keep medical documentation. (PC16)
- Clearly and unambiguously communicate own knowledge, conclusions and arguments. (PC21)
- Adhere to ethical principles. (PC24)

The student must DEMONSTRATE:

- Determination and persistence in relation to assigned tasks and assumed responsibilities. (GC12)

The student must HAVE THE SKILLS:

- Use of information and communication technologies. (GC10)
- Survey and clinical examination of the patient. (PC1)
- Provision of emergency medical care. (PC8)
- Performing medical manipulations. (PC10)

Note:

GC - general competences

PC - professional competences of the specialty

PLO - program learning outcomes

Required educational components

Prerequisites:

- medical terminology with the basics of the Latin language;
- medical biology;
- medical biochemistry;
- human anatomy;
- physiology;
- histology, cytology and embryology;
- microbiology, virology (with the basics of immunology);
- pathomorphology;
- pathophysiology;
- pharmacology;
- patient care (practice) in the therapeutic department, surgical department, children's department;
- propaedeutics of pediatrics, including nursing practice, basic medical skills in the pediatric department;
- pediatrics with children's infectious diseases, including medical practice (professional training).

Necessities:

- internal medicine, including endocrinology, infectious diseases with HIV infection, phthisiology, neurology, clinical practice (professional training);
- surgery, including: pediatric surgery, neurosurgery, oncology, clinical practice (professional training);
- obstetrics and gynecology, including clinical practice (professional training);
- social medicine, public health.

Post-requisites:

- pediatrics with children's infectious diseases, including clinical practice (professional training);
- general practice (family medicine), including clinical medical practice in a general practice outpatient clinic.

Content of the discipline

MODULE 1. Neonatology, diseases of the blood system and endocrine system in children

CONTENT MODULE 1. Neonatology

Topic 1. Organization of neonatal care in Ukraine. Medical care for a healthy newborn baby.

Indicators of the quality of medical care for newborns: perinatal mortality, neonatal morbidity and mortality. Regionalization of perinatal care. Medical protocol about care for a healthy newborn baby: sequence of actions for providing medical care for a healthy newborn baby in the delivery room, ten steps of the warm chain, assessment of the general condition of the baby according to the Apgar scale, scheme of the initial medical examination of the newborn, care of the umbilical cord, umbilical cord remnant, umbilical wound, prevention of hemorrhagic disease of the newborn, vaccination of newborns, screening examination of newborns.

Topic 2. Prematurely born children. Children are small for gestational age.

Assessment of morphological and neuro-functional maturity of prematurely born children (according to the Ballard scale). Pathological conditions characteristic of prematurely born children. The main stages of providing medical and preventive care. Principles of enteral and parenteral nutrition of prematurely born children. Emergency assistance in emergency situations: hypothermia, hypoglycemia, apnea. Intrauterine development delay: causes, clinical options, features of early neonatal adaptation.

Topic 3. Asphyxia of a newborn. Birth trauma.

Asphyxia at birth: definition, causes, classification, diagnostic criteria. Initial, resuscitation and post-resuscitation care for a newborn child. Indications, contraindications, complications and stages of therapeutic hypothermia

Birth trauma: factors from the mother and fetus, typical manifestations of various types of birth trauma (soft tissue damage, paresis, paralysis, bone fractures, intracranial hemorrhages). Modern methods of diagnosis of intracranial hemorrhages. Principles of treatment of various types of birth injuries.

Topic 4. Respiratory distress syndrome of newborns (RDS). Pneumonia of newborns.

Respiratory distress syndrome of newborns: definition, risk factors, pathogenesis, clinical signs, diagnostic methods, differential diagnosis. Principles of treatment: stabilization of the condition at birth, surfactant replacement therapy, methods of respiratory support. Antenatal steroid prophylaxis.

Pneumonia of newborns: definition, etiology, pathogenesis, classification, features of the course of pneumonia in premature babies. Principles of antibiotic therapy of pneumonia in newborns.

Topic 5. Hemolytic disease of newborns (HCN). Hemorrhagic syndrome in newborns.

Hemolytic disease of newborns: etiology, pathogenesis, classification, clinical and laboratory criteria of various forms of the disease, differential diagnosis. Phototherapy: mechanism of action, rules of conduct, complications. Blood replacement surgery: indications, technique, complications. Specific prevention of hemolytic disease of the newborn. Forecast. Clinical manifestations of bilirubin-induced neurological dysfunction.

Causes of hemorrhagic syndrome in newborns. Hemorrhagic disease of newborns: definition, pathogenesis, classification, clinic, diagnosis, differential diagnosis, treatment, emergency care, prevention.

Topic 6. Intrauterine infections of newborns (TORCH - infections).

TORCH-infections of newborns: etiology, pathogenesis, clinic, diagnosis, differential diagnosis, treatment, prevention, prognosis.

Topic 7. Bacterial infections of newborns.

Purulent-inflammatory diseases of the skin and subcutaneous fat of newborns, diseases of the umbilical cord, umbilical wound and umbilical vessels: classification, etiology, pathogenesis, clinic, diagnosis, differential diagnosis, treatment, prevention, prognosis. Neonatal sepsis: definition, classification, etiology, pathogenesis, clinic, diagnosis, differential diagnosis, treatment, prevention, prognosis.

CONTENT MODULE 2. Diseases of the blood system in children

Topic 8. Anemias in children (deficiency, posthemorrhagic, hemolytic, due to hematopoiesis disorders).

Anemias in children (deficiency, posthemorrhagic, hemolytic, due to impaired hematopoiesis): definition, etiology, pathogenesis, classification, clinic, diagnosis, differential diagnosis, treatment, prevention, prognosis.

Topic 9. Hemorrhagic diseases in children.

Classification of disorders of the hemostasis system. Causes and risk factors of hemorrhagic diseases in children (hemophilia, idiopathic thrombocytopenic purpura, hemorrhagic vasculitis). The main links of the pathogenesis of hemorrhagic diseases

in children. Classification of hemorrhagic diseases in children. Typical elements of rash in various types of hemorrhagic diseases. Clinical manifestations of hemorrhagic syndrome in various hemorrhagic diseases. Differential diagnosis of hemorrhagic diseases in children. Criteria for laboratory diagnosis of hemorrhagic diseases. Principles of treatment and prevention of hemophilia, idiopathic thrombocytopenic purpura, hemorrhagic vasculitis. Emergency care for bleeding in children.

Topic 10. Leukemias and lymphomas in children.

Hemoblastosis, definition, classification, etiology and pathogenesis. Acute leukemia in children: clinical variants of the course, diagnosis, differential diagnosis. Principles of leukemia treatment, complications of cytostatic therapy. Forecast. Lymphomas in children: clinic, diagnosis, differential diagnosis, principles of treatment, prognosis.

CONTENT MODULE 3. Diseases of the endocrine system in children

Topic 11. Diabetes in children.

Types of glycemic disorders in children with diabetes. Etiology, triggering factors, pathogenetic mechanisms of development, stages of development, clinical and laboratory manifestations of type 1 diabetes in children. Features of the clinical course of diabetes depending on age. Differential diagnosis of diabetes type 1, type 2 and MODY diabetes in children. Principles of diabetes therapy. Diet therapy, the system of bread units in the diet of patients with diabetes. Insulin therapy of type 1 diabetes: groups of insulin preparations, methods of its use, daily need for insulin in children in different periods of the course of the disease. Diabetic ketoacidosis and ketoacidotic coma in children: causes, clinical and laboratory manifestations, principles of therapy. Hypoglycemia and hypoglycemic coma in children: causes, clinic, diagnosis, emergency care. Differential diagnosis of hypoglycemic and ketoacidotic coma in children and adolescents. Long-term complications of type 1 diabetes in adolescence.

Topic 12. Diseases of the thyroid gland in children.

The most common disorders and diseases of the thyroid gland in children. Methods of diagnosis of diseases of the thyroid gland. Conditions associated with an elevated TSH level. Causes of hypothyroidism in children and etiology of congenital hypothyroidism. Diagnosis of congenital hypothyroidism: symptoms and screening testing. Treatment and prognosis in congenital hypothyroidism. Acquired hypothyroidism, causes, clinic, diagnosis, treatment. Diagnostic criteria of Hashimoto's disease. Endemic goiter, diagnosis, treatment, prognosis. Main clinical manifestations and diagnosis of Graves' disease. Treatment of Graves' disease in

children. Thyrotoxic crisis, causes, clinic, emergency care. Diagnosis and treatment of thyroid cancer in children.

Topic 13. Diseases of the hypothalamic-pituitary system and gonads in children.

Etiology, pathogenesis, clinical picture, diagnostic methods, differential diagnosis, treatment and prevention of pituitary dwarfism, diabetes insipidus, hypogonadism, cryptorchidism, precocious puberty, delayed puberty, Turner's syndrome, Klinefelter's syndrome, ovotesticular disorder of sex formation, congenital hyperplasia of the adrenal cortex, obesity in children.

Types of training sessions: lecture, practical session.

Form of education: daytime

Teaching methods: verbal, explanatory and demonstrative, problem-based teaching method, reproductive, research.

Control methods: oral, written, practical, test.

Forms of final control: assessment - final control (semester IX-X).

Means of diagnosis of learning progress: individual tasks, questions for current control, tests, tasks, questions for final control.

Language of education: Ukrainian, English.

2. Evaluation of module 1 "Neonatology, diseases of the blood system and endocrine system in children":

**Distribution of points received by students when studying module 1
"Neonatology, diseases of the blood system and endocrine system in children"**

Type of assessment	Distribution of points							Total points
Oral answer Test control Working with a patient. Solving a	T1	T2	T3	T4	T5	T6	T7	65
	5	5	5	5	5	5	5	

clinical problem	T8	T9	T10	T11	T12	T13	-	
	5	5	5	5	5	5	-	
Writing and defense of medical history	15							15
Final control								120
Total for discipline								200

Note:

T - Topic of lesson no

Correspondence of assessment scales of learning material quality

Evaluation on a national scale	Score in points	Evaluation according to the ECTS scale	Explanation
Perfectly	170-200	A	Perfectly (excellent performance with only minor errors)
Fine	155-169	B	Very good (above average with a few errors)
	140-154	C	Fine (generally correct performance with a certain number of significant errors)
Satisfactorily	125-139	D	Satisfactorily (with a significant number of disadvantages)
	111-124	E	Enough (execution meets minimum criteria)
Unsatisfactorily	60-110	FX	Unsatisfactorily (with the possibility of reassembly)

	1-59	F	Unsatisfactorily (with mandatory repeated study of the discipline)
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3. Policy of the course: compulsory observance of academic integrity by students, namely:

- independent performance of all types of works, tasks, forms of control provided for by the work program of this educational discipline;
- references to sources of information in the case of using ideas, developments, statements, information;
- compliance with the legislation on copyright and international rights;
- provision of reliable information about the results of one's own educational (scientific) activity, used research methods and sources of information.

Discussed and approved at the meeting of the Department of Pediatrics No. 1

Protocol No. _1___ from August 29, 2025

Chief of the Department of Pediatrics No. 1,

PhD, professor



V.S.Berezenko