

THE MINISTRY OF HEALTH OF UKRAINE
NATIONAL BOGOMOLETS MEDICAL UNIVERSITY

«APPROVED»

Vice-rector for scientific and pedagogical
educational work

PhD in Medicine, prof. Vlasenko O.V.

«29» of August, 2025

SYLLABUS OF EDUCATIONAL DISCIPLINE

«Propedeutics of pediatrics, including nursing practice, basic medical skills in the pediatric department»

Educational level: second (Master's degree)

Field of knowledge: 22 («Health care»)

Educational program: «Medicine»

Specialty: 222 («Medicine»)

Discussed and approved on Cyclic methodical meeting on pediatric disciplines of the National Bogomolets Medical University

Protocol № 1 from August "29" 2025

The Head, professor of the pediatric department №1,
PhD _____

T.V.Pochynok

Discussed and approved on the meeting of the pediatric department № 1

Protocol № 1 from August “29” 2025

The Head of the pediatric department №1,
prof., PhD _____

V.S.Berezenko

1. Course annotation:

Semesters: 5 and 6;

Module volume: total hours – 150, out of them lectures – 10 hours, practical classes– 80 hours; independent work – 60 hours;

ECTS credits number – 5.

Purpose of the course:

- acquisition by the student of knowledge, abilities, skills and professional competences in propaedeutics of pediatrics, necessary in the process of further education of pediatric disciplines at a medical university and in the professional activity of a doctor in the field of health care;
- the student's acquisition of knowledge, abilities, skills and professional competences of the professional activity of a nurse in a children's hospital based on knowledge and understanding of the peculiarities of the functioning of a child's body at various ages in compliance with the principles of medical ethics and deontology.

Results of discipline study:

- ***To know:***

- the main historical stages of the development of pediatrics, the place of pediatrics in the system of general medicine; periods of childhood and characteristics of development and morbidity of children in each of them; patterns of physical and neuropsychological development of children; anatomical and physiological features of organs and systems at different age periods of a child's life and their clinical significance; semiotics of syndromes of damage to each of the systems of the child's body and the most common diseases, principles of rational feeding of infants and nutrition of healthy children over one year old;

- responsibilities of the medical staff in the pediatric department, the main indicators of the assessment of the general condition of the patient, indications for carrying out and the technique of performing hygienic treatment of hands, standards of patient preparation for conducting diagnostic laboratory and instrumental research, the technique of carrying out diagnostic and therapeutic procedures and manipulations, the organization of medical nutrition for children in pediatric department, algorithm of basic cardiopulmonary resuscitation in children, means of ensuring infectious safety of medical personnel.

- ***To be able to:***

- make conclusions about the physical and psychomotor development of children of different ages; conduct clinical examination of children of different ages and evaluate the obtained data; interpret the results of laboratory and instrumental studies; calculate, compile and adjust the daily diet of healthy young children;

- prepare the patient for laboratory and instrumental research; perform diagnostic and therapeutic procedures and manipulations; ensure compliance with the requirements of the sanitary and anti-epidemic regime in the department; keep the necessary medical documentation; use personal protective equipment (PPE) depending on the degree of infectious threat; provide emergency medical care using standard schemes; to possess the moral and ethical principles of a medical specialist and the principles of professional subordination.

- ***To demonstrate:***

-interviewing skills (identifying complaints and taking anamnesis) of persons accompanying children and children of different ages; physical examination methodology (examination, palpation, percussion) of each system; ability to prescribe the necessary list of laboratory and instrumental studies and evaluate their results; calculation skills daily amount of breast milk/milk formulas for babies and composition of food ration for infants and children older than 1 year; mastering the moral and ethical principles of a medical specialist in communicating with children and their relatives; the ability to act socially responsibly and consciously;

-methods of anthropometry in children of different ages and evaluation of the obtained results by different methods; methods of hygienic washing and hygienic hand antiseptics, techniques of performing diagnostic and therapeutic procedures and manipulations (provided by the program); the technique of using personal protective means (PPM); the technique of basic cardiopulmonary resuscitation at the pre-hospital stage in children, methods of bleeding management.

● ***To master the skills*** of questioning (according to the standard scheme), clinical examination of the patient (according to the established algorithm), determination of the main clinical symptoms and syndromes, appointment of the necessary list of laboratory and instrumental studies and their evaluation, performance of medical manipulations and procedures (according to the established list); professional subordination, communication with patients and colleagues based on the moral and ethical principles of a medical specialist; use of information technologies.

● ***To decide independently:*** the doctor's tactics (observation, recommendations or in-depth examination) after assessing the child's physical/neuropsychological development; questions about the severity of the patient's condition after the physical examination; the issue of infants feeding and rational nutrition of healthy children of later age periods.

Components necessary for the process of study:

● **Prerequisites** (previous disciplines, the results of which are necessary to study "Propaedeutics of Pediatrics..."): "Human anatomy", "Physiology", "Histology, cytology and embryology", "Medical biology", "Microbiology, virology (with the basics of immunology)", "Medical and bioorganic chemistry", "Philosophy, ethics";

● **Co-requisites** (disciplines that are studied in parallel and contribute to the in-depth study of "Propaedeutics of pediatrics..."): "Propaedeutics of internal medicine, including nursing practice, basic medical skills in the therapeutic department", "General surgery, including nursing practice, basic medical skills in the surgical department departments".

● **Postrequisites** (disciplines that will use the learning outcomes of this course): "Pediatrics, including industrial practice (professional training)", "Children's infectious diseases"; "Surgery, including children's surgery".

Content of the discipline

Topic 1. The subject and place of pediatrics in the health care system, the main stages of development

Definition of the "Pediatrics" science, historical stages of the development of pediatrics in the world and in Ukraine and their significance. The most outstanding pediatric scientists, their contribution to the development of maternity and childhood care in the country. The place of

"Pediatrics" in the system of general medicine and in the training of a general practitioner. Tasks of the "Propaedeutics of Pediatrics" course.

Topic 2. System of children's health care organization in Ukraine

Principles of providing medical care to children in Ukraine. The structure and organization of the work of the main health care facilities, in which primary medical and sanitary, specialized and highly specialized medical care for children is provided.

Topic 3. Periods of childhood. Newborn period peculiarities

The need for periodization of childhood. Classification of periods of childhood, their sequence, essence and duration of each. Critical periods of childhood. Physiological and transitional states in the newborn period. The concept of the maturity of a newborn; signs of prematurity. Methods of assessing a child's condition at birth.

Topic 4. Physical development of children, anthropometry results assessment. Physical development disorders semiotics

Characteristics of children's growth and development processes. Patterns of increase in basic anthropometric indexes with the age of the child. The importance of conducting a PD assessment, the regulated frequency of assessment depending on the age of the child. Methods of evaluating the results of anthropometry. Semiotics of violations of children's physical development. Factors of positive and negative influence on children's physical development.

Topic 5. Anatomic and physiological peculiarities of nervous system in children. Psychomotor development of children, methods of its assessment and common signs of violation

The main anatomical and physiological features of different parts of the nervous system in children, their clinical significance. Definition of the concept of "psychomotor development of children", stages of maturation of the main mental functions. Regulated frequency of assessment of the child's psychomotor development depending on age; assessment methods (coefficient of development (QD), epicrisis period, main lines of development).

Topic 6. Methodic of nervous system clinical inspection and additive methods of examination. Semiotics of nervous system disorders in children

Methods of clinical neurological examination of children. Semiotics of the main disorders syndromes and diseases of the nervous system in children. Indexes of cerebrospinal fluid in healthy children of different ages and in pathology.

Topic 7. Anatomic and physiological peculiarities, methods of clinical inspection of skin and subcutaneous tissue, additive methods of examination. Semiotics of skin and subcutaneous tissue disorders in children

Morphological and functional features of the skin and its derivatives in children; their influence on skin functions in young children. Methods of skin and subcutaneous tissue inspection. Semiotics of skin lesions (color changes, vascular changes, primary and secondary elements of skin rash), their causes. Causes and consequences of insufficient or excessive development of subcutaneous tissue.

Topic 8. Anatomical and physiological features, clinical examination methods, additional methods of research of the musculoskeletal system. Semiotics of diseases of the musculoskeletal system.

Features of the mineral composition of bones, the structure of tubular bones and their blood supply in young children, clinical significance. Timing and significance of the appearance of physiological curves of the spine, timing and order of eruption of primary and permanent teeth. The concept of "bone age" and its clinical significance. Features of muscle development (biochemical composition, histological structure) in young children. Methodology of examination of the musculoskeletal system; semiotics of diseases

Topic 9. Anatomical and physiological features, methods of clinical examination of respiratory organs in children, additional research methods.

Age-related anatomical and physiological features of each part of the respiratory system and their clinical significance. Methods of clinical examination of the respiratory system.

Topic 10. Respiratory system main syndromes of disorders and semiotics of the most common diseases

Clinical signs of the respiratory organs disorders: rhinosinusitis, pharyngitis, bronchitis, bronchiolitis, pneumonia, pleurisy. The most frequent syndromes of the respiratory system diseases in children: obstructive diseases; stenotic laryngotracheitis; congenital stridor, respiratory distress syndrome of newborns, respiratory failure syndrome. Laboratory and instrumental methods of research of respiratory organs in children.

Topic 11. Anatomical and physiological features, methods of clinical examination of the cardiovascular system in children.

Embryogenesis of the cardiovascular system, the timing of the formation of congenital defects of the heart and large vessels. Features of blood circulation in the fetus and newborn. Age-related anatomical and physiological features of the heart and blood vessels, their clinical significance. Methods of clinical examination of the cardiovascular system (features of the topography of the heart, frequency and rhythm of heart contractions, blood pressure in the age aspect).

Topic 12. Additional methods of research of the cardiovascular system. Semiotics of the main diseases of the cardiovascular system in children.

Semiotics of diseases of the cardiovascular system: signs of endocarditis, myocarditis, pericarditis, congenital and acquired heart defects. Instrumental research methods (ECG, echocardiography, X-ray), their indexes in normal and pathological conditions. Signs of circulatory failure in children.

Topic 13. Anatomical and physiological features, methods of clinical examination of the digestive system in children

Age-related anatomical and physiological features of the digestive system in children, their clinical significance. Methods of clinical examination of digestive organs.

Topic 14. Additional methods of examination of the digestive system. Semiotics of lesion syndromes and basic diseases of the digestive system.

The main symptoms (nausea, vomiting, heartburn, odynophagia, belching, aerophagia, diarrhea, constipation, others) and syndromes (pain, dyspeptic, etc.) characteristic of diseases of the digestive organs in children. Laboratory and instrumental (abdominal sonography, endoscopic, X-ray) examination methods in the diagnostic of the digestive organs diseases.

Topic 15. Anatomical and physiological features, methods of clinical examination of the urinary system in children, additional examination methods. Semiotics of urinary system main syndromes and diseases in children.

Age-related anatomical and physiological features of kidneys, ureters, urinary bladder and urethra in children, their clinical significance. Methods of examination of the urinary system. Laboratory and instrumental methods of the urinary system examination. Semiotics of urinary system main syndromes and diseases in children.

Topic 16. Anatomical and physiological features, methods of clinical examination of the blood system in children. Laboratory research methods. Clinical and hematological semiotics of the main syndromes and diseases of the blood system in children

Stages of embryonic hematopoiesis, features of hematopoiesis in the postnatal period. Procedure and method of clinical examination of the blood system. The value of the main indicators of the general blood test at birth, the dynamics of their changes with the age of the child, the reasons for these changes. Peculiarities of myelogram and hemostasis in the age aspect. Clinical and hematological characteristics of the main syndromes of the blood system disorders in children.

Topic 17. Anatomical and physiological features, clinical examination methods, additional research methods. Semiotics of diseases of the immune system in children.

Stages of development of the immune system in children. Mechanisms of normal immune response, particularities in children (critical periods of immune system functioning). Procedure and technique of examination of the immune system. Laboratory and instrumental methods of examination: immunological tests of I-II levels, determination of the cardio-thymic-thoracic index. Contents of basic concepts of clinical immunology (immune status, immune deficiency, immune system dysfunctions, immunodeficiency state).

Topic 18. Anatomical and physiological features, methods of clinical examination of the endocrine system, semiotics of endocrine glands diseases in children.

Embryogenesis and anatomical and physiological features of endocrine glands in children: thyroid and parathyroid glands, adrenal glands, endocrine tissue of the pancreas, gonads, pituitary gland, pineal gland. Methods of clinical examination of the endocrine system. Semiotics of syndromes of hyper- and hypofunction of endocrine glands.

Topic 19. Curation of the patient, educational case report composition.

Acquaintance with the scheme of writing the child's medical history (sequence and content of each section): passport part, sections of history and objective examination of the child. Curation of the patient in the presence of the teacher of the group. Writing medical history; formulating conclusions, drawing up a plan for laboratory and instrumental examination. Explanation of individual provisions of "history" to the teacher's question.

Topic 20. Breastfeeding, its advantages comparing to artificial feeding. Solids introduction

Quantitative and qualitative composition of mother's milk in comparison with cow's milk. Immunobiological factors of mother's milk and other advantages of natural feeding. Rules and techniques of breastfeeding, the first application to the mother's breast. Difficulties in breastfeeding. Nutrition of nursing women. The child's daily need for basic food ingredients and energy. Methods of calculating the daily amount of food, determining the frequency of food intake. Feeding (supplementary food) and correction of nutrition: recommended products and their volume, term and sequence of introduction.

Topic 21. Artificial and mixed feeding of infants

Definition of the concepts of "artificial feeding", "mixed feeding" of infants. Reasons for transferring a child to mixed or artificial feeding. Classification and composition of milk mixtures used for mixed and artificial feeding of infants in the first and second half of life. Definition of the term "hypogalactia", its causes, classification, prevention, treatment.

Topic 22. Feeding of prematurely born children

Features of the gastrointestinal tract of prematurely born children, clinical significance. Indications for total parenteral feeding. Means of enteral feeding of a child with a low body weight at birth depending on the gestation period. Methods of calculating the daily amount of milk or milk mixtures.

Topic 23. Principles and organization of rational nutrition for children older than one year

Features of the qualitative and quantitative provision of the diet of children older than one year, with the main food ingredients, minor biologically active compounds, and energy. General principles of optimal nutrition: conditions for a balanced diet, optimal nutrition regime, adequate technological and culinary processing of products and dishes, taking into account the individual characteristics of children. Factors that affect the formation of eating behavior of children of different age groups.

Topic 24. Peculiarities of energy, protein, carbohydrate, lipid, water-electrolyte and acid-base metabolism in children

Definition of concepts: "assimilation", "dissimilation", "body metabolism". Features of energy, protein, carbohydrate and lipid metabolism in children; laboratory indicators of the state of each of the types of metabolism; signs of disorders. The amount of water and its distribution in the body of children of different ages; ways and speed of its loss (physiological and pathological). Peculiarities of electrolyte metabolism in young children, signs of their quantity disturbance and causes of these changes. Indexes of the acid-alkaline balance of the organism; peculiarities of the mechanisms of regulation of the acid-alkaline balance in children.

Topic 25. Technique of anthropometric measurements in children, evaluation of the obtained data

The technique of anthropometric measurements in children of different ages (measurement of body length and weight, head and chest circumferences). Evaluation of the obtained data by

methods of standard deviations and centile standards. Calculation of BMI and its assessment in children. Acquaintance with conducting other anthropometric measurements.

Topic 26. Hygienic procession of hands

Hygienic procession of hands: hygienic washing and hygienic hand antiseptics (indications for carrying out, execution technique). A multimodal strategy for improving hand hygiene in health care facilities.

Topic 27. Personal protective equipment for medical workers.

Personal protective equipment for medical workers, taking into account the degree of infectious danger (indications for use, rules and sequence of putting on and taking off).

Topic 28. Participation of a nurse in diagnostic process

Measurement of pulse and breathing rate, technique of working with a pulse oximeter, measurement of blood pressure. Registration of standard ECG in 12 leads in children of different ages. Carrying out the Ruffier test.

Taking smears and washings from the nose and from the oropharyngeal area. Taking urine tests from children of different ages for research. Taking feces for research, scraping from perianal skin folds for enterobiosis.

Preparation for conducting ultrasound, X-ray, endoscopic examinations of organs of the digestive and urinary systems. Maintenance of medical documentation.

Blood collection for research, vacuum systems for blood collection.

Topic 29. Participation of a nurse in the treatment process

The technique of enteral administration of medicines: varieties of medicinal forms, administration of medicines through the skin and through the mucous membranes (instillation of drops and application of ointment in the eye and nose).

Inhalation route of drug administration, types of inhalers (advantages and disadvantages), method of inhalation. Methods of supplying oxygen.

Parenteral route of drug administration: structure and types of syringes, peripheral catheters; the technique of subcutaneous, intradermal, intramuscular, intravenous injections, intravenous drip administration of drugs; injection complications.

Topic 30. The work of a nurse in the vaccination office

Organization of vaccination of children in health care institutions. The work of a nurse in the vaccination office.

Topic 31. Medical nutrition. Organization of nutrition for patients in departments of a children's hospital

Therapeutic nutrition, principles and methodology of prescribing for children. Organization of nutrition of patients in departments of a children's hospital, functional duties of a dietitian nurse.

Topic 32. Basic cardiopulmonary resuscitation in children at the prehospital stage. Stopping external bleeding

Emergency service. Algorithm of actions of basic cardiopulmonary resuscitation at the pre-hospital stage in children. Automatic external defibrillator: purpose, where it is stored in

places of public access, what does the "universal AED sign" look like, application algorithm. Methods of stopping bleeding.

Types of studying classes: lection, practical class, consultation

Forms of study: day

Methods of study: oral, explanatory and demonstrational, method of problematic teaching, researching

Methods of control: oral, writing, practical, testing, graphical усний, письмовий, практичний, графічний, тестовий.

Final control forms: final control (FC); objective structured practica clinical exam (OSCE 1)

Means of diagnostics of learning success: individual tasks, presentations, questions for current control, tests, problems, calculations, exercises, questions for final control.

Language of study: Ukrainian, English

2. Evaluation:

Distribution of points received by students

Types of evaluation	Number of points Maximal/Minimal
Current control	80/ no min.
Final control	120 / no min.
Incentive points for winners of pediatric olympiads of international or among higher education institutions of Ukraine, diploma winners of student scientific works competitions (by decision of the Academic Council of the Faculty)	
TOTALLY	200 / 111

Current control is carried out at each practical lesson, it involves 100% assessment of the students of the group for each type of activity provided for assessment (answering test tasks, answering an oral survey, performing practical skills, solving situational problems). At the end of the lesson, a general traditional assessment is made: "5"(excellent), "4"(good), "3" (satisfactory), "2" (unsatisfactory). If a student is absent on a practical lesson, he receives "abs". The student learns the missed material (due to any reason for missing the class) on his own outside the classroom time and reports it to the teacher of the group by submitting conspectus of the missed class topic for review. If the student was absent on the "Patient Curation" class, he is obliged to carry out the curation individually with the consent of the group teacher (because the completion of the Individual Task is a mandatory component of the training program in the discipline).

The number of accumulated points for the current activity is calculated according to the "average grade": the values of all grades (except "2") are added, the resulting number is divided by the total number of classes with grades. Next, according to the points conversion scale (calculated for 80 points), the number of accumulated points for the current activity is determined.

Final control

The final control (FC) is carried out upon completion of the study of all prescribed topics and the above-mentioned requirements, upon completion of the last practical lesson. Students with

any number of accumulated points for the current activity (there are no restrictions on the number of accumulated points) are allowed to take the FC, but on the condition that they attended $\geq 75\%$ of auditory classes.

During the final control, knowledge and skills are assessed on all topics of the discipline, including those determined for independent study and lecture materials.

The form of final control is standardized and includes the solution of 30 test tasks, a situational problem, an oral answer to theoretical questions, and a demonstration of practical skills. The maximum number of points that a student can receive during the PC is 120 points. There is no minimum number of points.

The **evaluation of the discipline** is carried out on a 200-point scale, the evaluation of the discipline is the sum of the points for the current activity and the final control (the maximum evaluation is 200 points, the minimum is 111 points).

Correspondence of evaluating scales to the level of the received knowledge

Mark in points	National scale mark	ECTS mark	Explanation
170-200	Excellent	A	Excellent (perfect fulfillment with minor unimportant mistakes)
155-169		B	Very good (above an average level with a few mistakes)
140-154	Good	C	Good (in general correct fulfillment with several unimportant mistakes)
125-139		D	Satisfactory (not bad but with significant mistakes)
111-124	Satisfactory	E	Enough (fulfillment satisfies minimal needed criteria)
60-110		FX	Unsatisfactory (with possibility of the repeated trial)
1-59		F	Unsatisfactory (without possibility of the repeated trial)

3. Course Policy: mandatory observance of academic integrity by students, namely:

- independent performance of all types of work, tasks, forms of control provided for by the work program of the educational discipline "Propaedeutics of pediatrics, including nursing practice, basic medical skills in the pediatric department";
- references to sources of information in the case of using ideas, developments, statements, information;
- compliance with the legislation on copyright and related rights;
- provision of reliable information about the results of one's own educational (scientific, creative) activities, used research methods and sources of information.

How are the issues of retaking the FC/restudying the discipline resolved.

In case of unsatisfactory grade in the discipline within the range of 60-110 points (FX), the student has the right to retake the PC twice: the first time - a commission with the participation of the head of the department, the second (last) time - a commission with the participation of the head of the department and the dean of the faculty.

In case of unsatisfactory grade of 1-59 points (F), the student has the right to re-study the discipline (by decision of the management of the higher education institution in accordance with regulatory documents).

Recommended literature

- Global strategy for infant and young child feeding. WHO, 2020.
- O.M. Kovaleva, et al. Care for the sick child.-K .: Medicine. - 2010.
- T. Kyle. Maternity and Pediatric Nursing, 3rd edition. Lippincott Williams & Wilkins. – 2017.
- N. Burton. Clinical Skills for OSCEs, 5th edition. - Scion Publishing Ltd. 2015. – 344 p.
- Nelson Textbook of Pediatrics. 20th edition. – V(1,2). – 2016. – P.5315.