SYLLABUS

Propaedeutics of Pediatrics

(title of the discipline)

normative discipline

(normative / selective discipline)

educational and professional level

the second (master's) level of higher education

field of knowledge

22 «Health Care»

Specialty

228 «Pediatrics»

educational qualification

Master of Pediatrics

professional qualification

Pediatrician

form of training

daily

course and semester of study of discipline

III course, 5-6 semester

Poltava – 2021
INFORMATION ABOUT TEACHERS WHO TEACH EDUCATIONAL DISCIPLINE

| Surname, name, patronymic of the teacher (teachers), academic degree, academic title | Kaluzhka Olena Olexandrivna, Candidate of Medical Sciences, Associate Professor  
Soloviova Galyna Oleksiyivna, Candidate of Medical Sciences  
Artiomova Natalia Sergiyivna, Candidate of Medical Sciences  
Cherniavska Julia Igorivna, Candidate of Medical Sciences |
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<tr>
<td>Contact phone</td>
<td>(0532) 68-74-28</td>
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<tr>
<td>E-mail:</td>
<td><a href="mailto:umsakafped@ukr.net">umsakafped@ukr.net</a></td>
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<tr>
<td>Page of the Department on PSMU website</td>
<td><a href="https://www.umsa.edu.ua/fakultets/med-two/kafedry/pediatrii">https://www.umsa.edu.ua/fakultets/med-two/kafedry/pediatrii</a></td>
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MAIN CHARACTERISTICS OF THE EDUCATIONAL DISCIPLINE

The volume of the educational discipline
Number of credits / hours - 5 / 150, of which:
Lectures (hours) - 26  
Practical (seminars) (hours) - 70  
Individual work (hours) - 54  
Type of control: final modular control

Discipline policy
An important condition for a successful educational process is the personal observance by each applicant of the second (master's) level of rules of conduct adopted in the University and in society. The applicant for higher education of the University, as a future doctor, must have a high level of culture of behavior, behave with dignity, tact, maintain the endurance and self-control. Applicant for the master's level must come to class on time without delay, must be dressed in the appropriate medical uniform (white coat, changeable shoes and medical cap), come to class with a synopsis and prepared on the topic of the class. The applicant for higher education must not violate the schedule of the educational process, allow non-fulfillment of educational and individual plans without good reason. During the lesson, the applicant for higher education must not leave the classroom without the permission of the teacher; use mobile phones and other means of communication and obtaining information without the teacher's permission, engage in extraneous activities, distract other applicants for higher education and interfere with the teacher. Applicants for a master's degree who have missed classes without good reason are obliged to apply to the dean's office with an application addressed to the dean for a work permit within three days after attending classes.

The policy of the academic discipline is regulated by a system of requirements that a lecturers impose on applicants for higher education in the study of the discipline and it is regulated by the list of current regulations on higher education in Ukraine and the Poltava State Medical University [https://www.umsa.edu.ua/n-process/department-npr/normativni-dokumenti](https://www.umsa.edu.ua/n-process/department-npr/normativni-dokumenti)

Course description (abstract).
Propaedeutics of pediatrics is an educational and clinical discipline that allows applicants for higher education to gain knowledge of the anatomical and physiological features of the child's body,
taking into account the basic laws of physical and neuropsychological development of children of different ages. Applicants in the study of the discipline have the opportunity to master the physical methods of examination: survey, palpation, percussion, auscultation of internal organs and systems of the child's body. Applicants for higher education will gain knowledge on the semiotics of major diseases of organs and systems in children of different ages and develop the ability to determine the necessary list of laboratory and instrumental studies with evaluation of their results, which further develops the ability to establish previous and clinical diagnosis of the disease. The study of propaedeutics of pediatrics forms the ability to work with medical records. Applicants then use acquired in this way special (professional) competencies in work directly with patients.

**Prerequisites and postrequisites of the discipline (interdisciplinary links)**

**Prerequisites**

Mastering the discipline "Propaedeutics of Pediatrics" is based on the previous study of human anatomy by applicants for higher education; histology, cytology and embryology, medical biology, medical chemistry, biological and bioorganic chemistry, medical physics, microbiology, virology and immunology and integrates with these disciplines.

**Postrequisites**

Knowledge, skills and abilities acquired after studying the discipline "Propaedeutics of Pediatrics", lay the foundations for applicants for higher education to study such clinical disciplines as pediatrics with children’s infectious diseases. They form an idea of professional responsibility for the timely prevention of diseases, the quality of diagnosis and treatment of diseases of children of different ages, as well as the rational feeding of children of different ages.

The purpose and objectives of the discipline: the purpose of the study of the discipline "Propaedeutics of Pediatrics" is the formation of skills to apply the knowledge of Propaedeutics of Pediatrics in the process of further education and in professional activity.

The main objectives of studying the discipline "Propaedeutics of Pediatrics" is to gain knowledge about:

- Pediatrics as the science about a healthy and sick child
- Periods of childhood
- Features of physical and psychomotor development of children of different ages
- Anatomical and physiological features and methods of examination of organs and systems in children of different ages
- Semiotics of diseases of different organs and systems in children
- Rational feeding of infants and children older than 1 year

Competences and learning outcomes, the formation of which is facilitated by the study of the discipline "Propaedeutics of Pediatrics". In accordance with the requirements of the Standard, the discipline ensures the acquisition of competencies by applicants for higher education:

- **Integral competence:** the ability to solve typical and complex specialized tasks and practical problems in professional activities in the field of health care, or in the learning process, which involves research and/or implementation of innovation and is characterized by complexity and uncertainty of conditions and requirements.

- **general competencies (GC):**
  GC 1. Ability to abstract thinking, analysis and synthesis, the ability to learn and master modern knowledge.
  GC 2. Ability to apply knowledge in practical situations.
  GC 3. Knowledge and understanding of the subject area and understanding of professional activity.
  GC 4. Ability to adapt and act in a new situation.
  GC 6. Ability to communicate in the state language both orally and in writing; ability to communicate in a foreign language. Ability to use international Greco-Latin terms, abbreviations and clichés in professional oral and written speech.
  GC 7. Skills in the use of information and communication technologies.
  GC 8. Definiteness and persistence of set tasks and taken responsibilities.
  GC 9. Ability to act social responsibly and consciously.
- **special (professional) competencies (SC):**

  SC2. Ability to determine the required list of laboratory and instrumental studies and evaluate their results.
  SC3. Ability to establish a previous and clinical diagnosis of the disease.
  SC4. Ability to determine the required mode of work and rest during the treatment of diseases.
  SC7. Ability to diagnose emergencies.
  SC17. Ability to keep medical records

**Program learning outcomes, the formation of which is facilitated by the discipline:**

**PLO 1.** To know the structure and functions of individual organs and systems and the human body as a whole in the norm, with the development of pathological processes, diseases; be able to use the acquired knowledge in further studying and in the practice as the doctor.

**PLO 2.** To collect data on patient complaints, life anamnesis (professional anamnesis in particular) in a health care facility and/or at the patient's home, according to the standard survey scheme.

**PLO 3.** To assign and analyze additional (mandatory and by choice) examination methods (laboratory, radiological, functional and/or instrumental). Evaluate information for the purpose of differential diagnosis of diseases (according to the list 2), using knowledge about a person, his organs and systems, based on the results of laboratory and instrumental research (according to the list 4).

**PLO 4.** To establish a preliminary and clinical diagnosis of the disease (according to the list 2) on the basis of leading clinical symptoms or syndromes (according to the list 1) by making an informed decision and logical analysis, using the most probable or syndromic diagnosis, data of laboratory and instrumental examination of the patient, conclusions of differential diagnosis, knowledge about a person, his organs and systems, adhering to the relevant ethical and legal norms.

**PLO 5.** To determine the necessary mode of work and rest during the treatment of the disease (according to the list 2) in a health care facility, at home of the patient and at the stages of medical evacuation, including in the field conditions, on the basis of a previous clinical diagnosis, using knowledge about the person, his organs and systems, adhering to the relevant ethical and legal norms, by making an informed decision according to existing algorithms and standard schemes.

**PLO 8.** To diagnose emergencies and establish a diagnosis (according to the list 3) by making an informed decision and assessing the human condition under any circumstances (at home, on the street, in a health care facility), including in emergency situations, in field conditions, in conditions of lack of information and limited time, using standard methods of physical examination and possible anamnesis, knowledge about a person, his organs and systems, adhering to the relevant ethical and legal norms.

**PLO 18.** To maintain medical records about the patient and the population on the basis of regulatory documents, using standard technology. Prepare reports on personal production activities, using official accounting documents in the standard form.

**PLO 26.** To adhere to the requirements of ethics, bioethics and deontology in their professional activities.

Upon completion of the discipline, applicants for higher education must know how:

1. To collect data about patient complaints, medical anamnesis, life anamnesis (including professional anamnesis), in a health care facility, its unit or at the patient's home, using the results of the interview with the patient, according to the standard scheme of the patient survey. Under any circumstances (in the health care facility, its unit, at the patient's home, etc.), using knowledge about the person, his organs and systems, according to certain algorithms:
   - to collect information about the general condition of the patient (consciousness, constitution) and appearance (examination of the skin, subcutaneous fat layer, palpation of lymph nodes, thyroid and breast);
   - to assess the psychomotor and physical development of the child;
   - to examine the state of the cardiovascular system (examination and palpation of the area of the heart and superficial vessels, determination of percussion boundaries of the heart and blood vessels, auscultation of the heart and blood vessels);
- to examine the condition of the respiratory organs (examination of the chest and upper respiratory tract, chest palpation, percussion and lung auscultation);
- to examine the condition of the abdominal organs (examination of the abdomen, palpation and percussion of the intestines, stomach, liver, spleen, palpation of the pancreas, kidneys, pelvic organs, finger examination of the rectum);
- to examine the condition of the musculoskeletal system (examination and palpation);
- to examine the state of the nervous system;
- to examine the condition of the genitourinary system;
- to assess the state of intrauterine fetal development according to the calculation of fetal weight and auscultation of its heartbeat.

2. To assign laboratory and/or instrumental examination of the patient by making an informed decision, based on the most probable or syndromic diagnosis, according to standard schemes, using knowledge about the person, his organs and systems, adhering to relevant ethical and legal norms.

3. To evaluate information on the diagnosis in the health care facility, its unit, using a standard procedure, using knowledge about the person, his organs and systems, based on the results of laboratory and instrumental studies; know the algorithm of diagnosis in a health care facility.

4. To determine the necessary mode of work and rest during the treatment of the disease, in a health care facility and at home, based on a previous clinical diagnosis, using knowledge about the person, his organs and systems, adhering to relevant ethical and legal norms, by making reasonable decisions according to existing algorithms and standard schemes.

5. To provide emergency medical care in all circumstances, using specialized knowledge about the structure of the child's body, its organs and systems, adhering to the relevant ethical and legal norms, by making an informed decision, based on the detection of an emergency (from the list 3: acute respiratory failure, acute heart failure, acute bleeding, acute blood loss syndrome, cardiac arrest, respiration arrest, collapse) for a limited time according to certain tactics, using standard schemes.

6. Under the conditions of the health care facility, its unit, to keep medical records about the patient (fill out the medical card of an inpatient, a letter of prescription, an outpatient card, etc.), using standard technology, based on regulations. Know the system of official document management in the professional work of medical staff, including modern computer information technology.

Be able to:

1. To collect data on patient complaints, medical anamnesis, life anamnesis, collect information about the general condition of the patient (consciousness, constitution) and appearance (examination of the skin, subcutaneous fat layer, palpation of lymph nodes, thyroid and breast).
   - to assess the psychomotor and physical development of the child;
   - to examine the state of the cardiovascular system (examination and palpation of the area of the heart and superficial vessels, determination of percussion boundaries of the heart and blood vessels, auscultation of the heart and blood vessels);
   - to examine the condition of the respiratory organs (examination of the chest and upper respiratory tract, chest palpation, percussion and lung auscultation);
   - to examine the condition of the abdominal organs (examination of the abdomen, palpation and percussion of the intestines, stomach, liver, spleen, palpation of the pancreas, kidneys, pelvic organs, finger examination of the rectum);
   - to examine the condition of the musculoskeletal system (examination and palpation);
   - to examine the state of the nervous system;
   - to examine the condition of the genitourinary system;
   - to assess the state of intrauterine fetal development according to the calculation of fetal weight and auscultation of its heartbeat.

2. To assign laboratory and/or instrumental examination of the patient and evaluate their results.

3. To identify and record the leading clinical symptom or syndrome.

4. To establish the most probable syndrome diagnosis of the disease. To carry out differential diagnosis of diseases.

5. To obtain the necessary information from a specific source and on the basis of its analysis to form appropriate conclusions.
6. To be responsible for the completeness and quality of the analysis of information and conclusions based on its analysis.

7. To provide the necessary mode of work and rest during the treatment of the disease. To inform the patient about the necessary mode of stay in the hospital, modes of work and rest during treatment. Be responsible for ensuring compliance with the prescribed regime of work and rest during the treatment of the disease.

8. To be able to establish a diagnosis by making an informed decision and assessing the human condition, under any circumstances, including in an emergency, lack of information and limited time.

9. To provide emergency medical care, under any circumstances, using knowledge about the person, his organs and systems, adhering to the relevant ethical and legal norms, by making an informed decision, based on the detection of an emergency (from the list 3 of the Standard: acute respiratory failure, acute heart failure, acute bleeding, acute blood loss syndrome, cardiac arrest, respiration arrest, collapse) for a limited time in accordance with certain tactics, using standard schemes. To be responsible for the timeliness and quality of diagnosing emergencies.

10. To keep medical records about the patient (fill in the medical card of an inpatient, a letter of prescription, an outpatient card, etc.).

11. To be able to determine the source and location of the required information depending on its type.

12. To be able to process information and analyze the information obtained.

**Thematic plan of lectures (in modules) with the main issues discussed at the lectures**

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<tr>
<th>№ in order</th>
<th>The name of the topic</th>
<th>Number of hours</th>
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<tbody>
<tr>
<td><strong>Module 1. Children’s development and feeding</strong></td>
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<tr>
<td>1</td>
<td>Newborn baby. Physiological and transient states in the newborn period. A premature born baby. The concept of maturity.</td>
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<td><em>Lecture plan:</em></td>
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<td>1. Relevance of the topic.</td>
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<td>2. Primary toilet of the newborn baby.</td>
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<td>3. Physiological and transitional states in the period of the newborn.</td>
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<td>4. The concept of maturity.</td>
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<td>5. Premature baby.</td>
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<td>2</td>
<td>Physical and psychomotor development of children of different age groups.</td>
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<td>Principles and methods of assessment of physical and psychomotor development of children. Semiotics of disorders of physical and psychomotor development of children.</td>
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<td><em>Lecture plan:</em></td>
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<td>1. Relevance of the topic.</td>
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<td>3. Semiotics of disorders of physical development of children of different age groups.</td>
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<td>5. Semiotics of disorders of psychomotor development in young children.</td>
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<td>1. Topicality of the topic.</td>
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| 4 | Quantitative and qualitative composition of breast milk. Immunological role of breast milk.  
   5. Methods of calculating the daily amount of food, diet of a child of 1st year of life.  
   8. The recommended program of introduction of supplementary food for children of the first year of life.  
   9. The need for proteins, fats, carbohydrates and energy per day during breastfeeding. |
|---|---|
| 2 | Artificial feeding of infants. Classification and characteristics of milk formulas. 
   The technique of artificial feeding and criteria for evaluating its effectiveness. 
   Organization and principles of nutrition of healthy children older than one year. 
   Nutrition of sick children. 
   *Lecture plan:*  
   1. Topicality of the topic.  
   3. Classification of modern mixtures for artificial feeding of children.  
   5. The need for food ingredients and energy during artificial feeding.  
   6. Terms of introduction of food supplements at artificial feeding.  
   7. Organization of food for children older than one year.  
   8. Needs for proteins, fats, carbohydrates and energy for children older than 1 year  
   9. Approximate set of products for children aged 1 to 3 years, for preschool, primary and secondary school children.  
   10. The role of therapeutic nutrition in various diseases in childhood.  
   11. Characteristics of medical diets (indications, purpose, general characteristics, diet, recommended foods and dishes) for various diseases. |
| 5 | Anatomical and physiological features of the nervous system in children. 
   Semiotics of major diseases of the nervous system in children. The cerebrospinal fluid. 
   Semiotics of changes in cerebrospinal fluid. 
   *Lecture plan:*  
   1. Relevance of the topic.  
   2. Anatomical and physiological features of the nervous system in children of different ages.  
   3. Methods of examination of children with disease of the nervous system  
   5. Cerebrospinal fluid (CSF). Semiotics of changes in cerebrospinal fluid. |
| 6 | Morphological and functional features of skin and its derivatives in children. 
   Features of the structure of subcutaneous tissue. Total semiotics of its main changes. 
   Semiotics of skin diseases and subcutaneous tissue lesions. Anatomic and physiological features of the musculoskeletal system in children. 
   Semiotics of lesions and diseases of the musculoskeletal system. 
   *Lecture plan:*  
   1. Relevance of the topic.  
   2. Anatomic and physiological features of the skin, subcutaneous fat tissue and musculoskeletal system in children.  
   4. Semiotics of lesions (hypotrophy, paratrophy, obesity).  
   5. Semiotics of major diseases of the musculoskeletal system (rickets). |
| 9  | Features of the blood system in children of different age groups. Clinical-hematological semiotics of the main syndromes (anemic, hemolytic, hemorrhagic, etc.) and diseases of the blood system in children (anemia, acute and chronic leukemia, hemorrhagic vasculitis, thrombocytopenic purpura, hemophilia, etc.) Lecture plan: 1. Relevance of the topic. 2. Anatomical and physiological features of the blood system in children of different ages. 3. Examination methods (complaints, examination, palpation, percussion, auscultation, laboratory diagnostics, etc.) in children. 4. Clinico-hematological semiotics of major diseases of the blood system (anemia, leukemia, lymphogranulomatosis, hemophilia, etc.) |
palpation; percussion; auscultation.
4. Laboratory and instrumental methods of examination of the digestive system.

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<th>Lecture plan:</th>
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| 11  | 1. Relevance of the topic.  
|     | 2. Modern data about morbidity of children with pathology of the digestive system.  
|     | 3. Pilarospasm and pilarostenosis.  
|     | 4. Semiotics of the main diseases of the digestive system: gastritis, peptic ulcer of the stomach, duodenal ulcer.  

12 Anatomical and physiological features of urinary organs in childhood. Brief information about the embryogenesis of the urinary system as the basis of congenital anomalies. Examination methodology. Semiotics of the most common diseases of the urinary system. Semiotics of microscopic changes in urinary precipitate. Acute and chronic renal failure syndrome.

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| 12  | 1. Relevance of the topic.  
|     | 3. Physical methods of examination of the urinary system of healthy and sick children of different ages (complaints, examination, palpation, percussion, auscultation).  
|     | 4. Semiotics of the most common diseases of the urinary system (pyelonephritis, cystitis, acute glomerulonephritis, etc.).  


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| 13  | 1. Relevance of the topic.  
|     | 2. Anatomic and physiological features of the endocrine system in children of different age groups.  
|     | 3. Methods of examination of children with pathology of the endocrine system.  
|     | 4. Semiotics of syndromes of hypo- and hyperfunction of individual endocrine glands and diseases of the endocrine system in children: pituitary gland; thyroid gland; parathyroid glands; pancreas; adrenal glands; genital glands. |

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<tbody>
<tr>
<td>1</td>
<td>Periods of childhood, their characteristics. Features and methodology of collecting anamnesis in children. Methodology of clinical objective examination of healthy and sick children. Criteria of assessing the general condition of sick children.</td>
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<td>1.</td>
<td>Characteristics of periods of childhood.</td>
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<td>Factors that form a child's health at different stages of development: the preparatory period (pregnancy planning); intrauterine period; intranatal period; postnatal childhood.</td>
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<td>Methodology of clinical examination of healthy and sick child.</td>
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<td>The concept of &quot;diagnosis&quot;, &quot;symptom&quot;, &quot;syndrome&quot;.</td>
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<td>Criteria of assessing the general condition of sick children.</td>
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<td>The modern concept of child health.</td>
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<td>Features of the neonatal period.</td>
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<td>Primary toilet of the newborn.</td>
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<td>Premature baby, maturity criteria.</td>
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<td>Physiological and transient conditions in the newborn period.</td>
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<td>3.</td>
<td>Physical development of children and anthropometry. The concept of physical development, the value of its assessment. The concept of acceleration of children's development, basic hypotheses and mechanisms of acceleration.</td>
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<td>Physical development - as an indicator of a child's health.</td>
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<td>Factors affecting the physical development of children.</td>
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<td>Methodology of anthropometric measurements of children of different ages (somatometry).</td>
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<td>The concept of acceleration of child development (distillation), basic hypotheses and mechanisms of acceleration.</td>
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<td>4.</td>
<td>Assessment of physical development of children. Methods of assessing the physical development of children of different ages. Semiotics of disorders of physical development of children. Physical Education.</td>
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<td>Methods of assessment of physical development of children.</td>
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<td>Features of assessment of physical development of the newborn baby.</td>
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<td>Assessment of physical development of children of different ages using methods: somatometric; somatoscopic; physiometric.</td>
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<td>Semiotics of disorders of physical development of children.</td>
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<td>5.</td>
<td>Psychomotor development of children. The concept of psychomotor development of children, its features in different periods of childhood. Day mode for children of different ages. Types of higher nervous activity and phase conditions in children and their importance for education.</td>
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<tr>
<td></td>
<td>Features of psychomotor development of a newborn baby.</td>
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<td>Types of higher nervous activity of human. The main stages of its formation in different periods of childhood.</td>
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<td>Features of psychomotor development of children in different age periods: infancy; before preschool age; preschool age; school age.</td>
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<td>Day mode for children of different ages.</td>
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<td>Reflexes, which help to determine the psychomotor status of the child in the first year of life.</td>
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<td>Factors that influence the psychomotor development of the modern child:</td>
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<td>Semiotics of disorders of psychomotor development of children.</td>
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<td>Groups of psychomotor development.</td>
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<td>Modern methods of lactation and breastfeeding.</td>
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<td>12 principles of successful breastfeeding as recommended by WHO and UNICEF.</td>
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<td>The benefits of breastfeeding.</td>
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<td>Quantitative and qualitative composition of breast milk.</td>
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<td>5.</td>
<td>Methods of calculation of daily volume of food, diet of the child of 1 year old.</td>
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<td>8</td>
<td>Feeding and nutrition correction.</td>
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<tr>
<td>1.</td>
<td>Signs of readiness of the child for the introduction of feeding.</td>
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<td>2.</td>
<td>Rules for the introduction of feeding.</td>
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<tr>
<td>3.</td>
<td>The need for proteins, fats, carbohydrates, calories per day during breastfeeding.</td>
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<tr>
<td>9</td>
<td>Artificial feeding of children. Defining the concept artificial feeding of children.</td>
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<tr>
<td>1.</td>
<td>Classification and characterization of milk mixtures for artificial feeding of children.</td>
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<td>2.</td>
<td>Reasons for transferring children to artificial feeding.</td>
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<td>4.</td>
<td>Rules of artificial feeding, feeding mode.</td>
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<td>5.</td>
<td>Possible mistakes in artificial feeding.</td>
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<td>6.</td>
<td>Criteria of assessing the effectiveness of artificial feeding.</td>
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<td>7.</td>
<td>The need for food ingredients and energy at artificial feeding.</td>
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<td>10</td>
<td>Feeding of children older than 1 year.</td>
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<tr>
<td>1.</td>
<td>Organization of feeding of children older than one year.</td>
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<td>2.</td>
<td>The diet of children older than one year in different ages.</td>
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<tr>
<td>3.</td>
<td>Protein, fat, carbohydrate and calorie requirements per kg of body weight for children older than 1 year.</td>
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<td>4.</td>
<td>Basic requirements for nutritional ingredients in the nutrition of children older than 1 year.</td>
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<td>5.</td>
<td>Approximate set of products for children from 1 year to 3 years old, for children of preschool, junior and senior school age.</td>
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<td>6.</td>
<td>Requirements for compiling a menu for children older than 1 year.</td>
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<tr>
<td>11</td>
<td>Nutrition of sick children.</td>
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<tr>
<td>1.</td>
<td>The role of therapeutic nutrition at various diseases in childhood.</td>
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<tr>
<td>2.</td>
<td>Organization of medical nutrition for children of different age groups.</td>
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<td>4.</td>
<td>Distribution of energy value during the day (breakfast, lunch, dinner, supper).</td>
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<td>5.</td>
<td>Characteristics of therapeutic diets (indications, purpose, general characteristics, diet, recommended foods and meals) at various diseases.</td>
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<tr>
<td>6.</td>
<td>Medicinal mixtures in infants' nutrition.</td>
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<tr>
<td>12</td>
<td>Final module control of module № 1.</td>
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<tr>
<td></td>
<td>Module 2 Anatomical and physiological features, methods of research and semiotics of diseases in children</td>
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<tr>
<td>13</td>
<td>Anatomical and physiological features of the nervous system in children. Disruption of embryogenesis as the basis of congenital anomalies of nervous system development. Methods of clinical neurological examination of children.</td>
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<tr>
<td>1.</td>
<td>Anatomical and physiological features of newborns’ nervous system.</td>
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<td>2.</td>
<td>Methods of examination of the nervous system in children of different ages.</td>
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<td>3.</td>
<td>An algorithm of carrying out of lumbar function, taking into account the anatomical features of the child's body.</td>
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<tr>
<td>4.</td>
<td>Features of cerebrospinal fluid of healthy children of different age groups.</td>
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<tr>
<td>1.</td>
<td>Semiotics of meningeal, encephalic, epileptic, hydrocephalic syndromes.</td>
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</tbody>
</table>
2. Semiotics of changes in cerebrospinal fluid in major diseases of the nervous system in children (purulent and serous meningitis, encephalitis, hydrocephalus, cerebral palsy, poliomyelitis).


4. Semiotics of subcutaneous fat tissue lesions (hypotrophy, paratrophy, obesity).

16 Anatomic and physiological features of the musculoskeletal system in children. Technique of examination of bone and muscle systems.

1. Anatomic and physiological features of the musculoskeletal system in children.
2. Methods of examination of the musculoskeletal system in children of different ages.
3. Techniques of the study of muscle tone in children of different ages.
5. Determination of the degree of muscle development.

17 Semiotics of major diseases of the musculoskeletal system.

1. The main symptoms of lesions of the musculoskeletal system in children: arthralgia, bone deformities, ankylosis and joint recurvation; walking violation; posture violation.
2. Semiotics of lesions of the musculoskeletal system at rickets, scoliosis, hip joints dysplasia.


1. Anatomical and physiological features of the respiratory system of children depending on age.
2. Carrying out physical examination methods in children of different age groups with respiratory diseases.
3. The feasibility of palpation as a method of examination of the respiratory system in children of different ages for a modern internist.


1. Features of percussion of respiratory organs in newborns.
3. Pathological changes in various respiratory diseases that are detected by percussion (shortened percussion sound, dull, tympanic, box, etc.).

20 Auscultation of the lungs in children.

1. General rules of conducting auscultation.
3. Weak, puerile, vesicular, rigid, bronchial breathing.
4. Additional respiratory noises (wheezing, crepitation, pleural friction noise).
5. Bronchophonia, semiotics of changes in major respiratory diseases.
| 21 | Semiotics of major respiratory diseases in children.  
1. The main symptoms of respiratory diseases in children.  
2. Semiotics of diseases of respiratory organs with broncho-obstructive syndrome.  
4. Semiotics of major respiratory diseases in children (obstructive bronchitis, bronchiolitis, exudative pleurisy, bronchial asthma, etc.) | 2 |
| 22 | Anatomic and physiological features of the heart and blood vessels in children, the method of study of the cardiovascular system in children. Embryogenesis of the cardiovascular system and congenital anomalies of the heart and blood vessels. Features of blood circulation in the prenatal period. Examination, palpation of the cardiovascular system in children.  
1. Anatomical and physiological features of the heart and blood vessels in different ages.  
2. The blood circulation of the fetus. Features of blood circulation of the newborn.  
3. Features of history collection in children with pathology of the heart and blood vessels.  
4. Examination, palpation of the cardiovascular system. Properties of apex impulse. The main characteristics of the pulse.  
5. The formula of blood pressure calculating in children of different age groups. | 2 |
| 23 | Heart percussion in children of different ages. Auscultation of the heart in children.  
1. The concept of absolute and relative bluntness of the heart.  
2. The method of determining the boundaries of relative cardiac bluntness in children.  
3. Features of ortho- and sagittal percussion in determining the left border of the heart in a child.  
4. Width of vascular bundle, diameter of heart.  
5. The main causes of displacement of the boundaries of the heart.  
7. The algorithm of auscultation of the heart in children of different ages.  
8. Heart tones, their characteristics in norm. The semiotics of changes in the auscultatory picture.  
9. Heart noises, pericardial friction noise.  
5. Care for patients with pathology of the cardiovascular system: mode, features of nutrition, dynamic observation, therapeutic gymnastics.  
6. The main symptoms of diseases of the cardiovascular system in children (cyanosis, bradycardia, tachycardia, shortness of breath, swelling, pain in the heart area, loss of consciousness).  
7. Complex of laboratory-instrumental methods of examination at diseases of the cardiovascular system in newborn children. | 2 |
9. Indications and diagnostic possibilities of echocardiography and phonocardiography.
10. Monitoring ECG by Holter in children

25 Anatomical and physiological features of the blood system in children of different ages.
1. Age characteristics of blood composition in children at different age periods.
2. Features of hematopoiesis in children.
3. Physiological features of the blood clotting system in healthy children of different ages.
4. Examination methods (complaints, examination, palpation, percussion, auscultation, laboratory diagnostics, etc.) in children.
5. Laboratory methods of blood testing.

26 Clinical-hematological semiotics of major syndromes (anemic, hemolytic, hemorrhagic) and diseases of the blood system in children.
1. The main symptoms that indicate diseases of the blood system in children (skin paleness, dizziness, violation of taste and appetite, hemorrhage, bleeding, bone pain, etc.).
2. Semiotics of major diseases of the blood system in children (anemia, leukemia, hemophilia, etc.).
3. Semiotics of changes of the general analysis of blood at the basic diseases of blood system in children.

27 Anatomical and physiological features of digestive system organs, research methods. Methods of clinical examination of digestive organs (examination, palpation, percussion, auscultation).
1. Anatomical and physiological features of the digestive system in newborns.
2. Features of carrying out physical methods of examination of organs of the digestive system in children of different ages.
3. Palpation and percussion of the liver with determination of the main symptoms at diseases of the hepatobiliary zone in children.
4. Laboratory and instrumental methods of examination of the digestive system.
5. Caring for children with digestive system disorders.

3. Semiotics of the most commonly occurring gastrointestinal disorders (cardiac achalasia, esophageal atresia, anus atresia, high and low intestinal obstruction).

1. Features of nutrition in children with diseases of the digestive system (therapeutic nutrition).
4. Care for children with chronic diseases of the gastrointestinal tract.

30 Anatomical and physiological features of urinary organs in childhood. Brief information about the embryogenesis of the urinary system as the basis of congenital anomalies. Examination methodology.
1. Anatomical and physiological features of urinary system in newborn children.
2. Physical methods of examination of the urinary system of healthy and sick children of different ages (complaints, examination, palpation, percussion, auscultation).
3. Features of the general analysis of urine depending on age. Urinalysis by Nechyporenko, Zymnytsky and others.

<table>
<thead>
<tr>
<th>Topic</th>
<th>Number of hours</th>
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<tbody>
<tr>
<td>Semiotics of the most common diseases of the urinary system. Semiotics of microscopic changes in urinary precipitate. 1. The main symptoms of lesions of the urinary system in children (edema, urinary incontinence, painful urination, lack of urine, discoloration of urine, etc.). 2. Semiotics of major diseases of the urinary system in children (pyelonephritis, cystitis, acute glomerulonephritis, etc.). 3. Syndrome of acute and chronic renal failure. 4. Nutrition of children with kidney disease.</td>
<td>2</td>
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<tr>
<td>Curation of sick children for writing educational history of diseases.</td>
<td>2</td>
</tr>
<tr>
<td>Anatomic and physiological features of the endocrine system in children. Semiotics of hypo- and hyperfunction syndromes of individual endocrine glands and diseases of the endocrine system in children. 1. Features of functioning of endocrine glands in children of different ages. 2. Methods of examination of children with pathology of the endocrine system (examination and palpation of the thyroid gland, palpation of the pancreas). 3. Assessment of the physical development of children with nanism or gigantism. 4. Additional methods of research in children with pathology of the endocrine system (urine analysis for sugar, etc.) 5. Semiotics of syndromes of hypo- and hyperfunction of individual endocrine glands and diseases of the endocrine system in children: pituitary gland; thyroid gland; parathyroid glands; pancreas; adrenal glands; genital glands. 6. Semiotics of diseases of the endocrine system in children (diabetes, acute and chronic adrenal insufficiency, nanism, gigantism, etc.)</td>
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<tr>
<td>Defense the educational history of the disease.</td>
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<tr>
<td>Final module control of Module 2</td>
<td>2</td>
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<td>Total</td>
<td>70</td>
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### Individual work

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<tr>
<th>№ in order</th>
<th>Topic</th>
<th>Number of hours</th>
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<tbody>
<tr>
<td></td>
<td>Working on topics that are not included to the classroom plan</td>
<td>*10,5</td>
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<td>номери тем 1-7 (7 x 1,5 годин)</td>
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#### Module 1 Child’s development and feeding

<table>
<thead>
<tr>
<th>№</th>
<th>Topic</th>
<th>Number of hours</th>
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<tbody>
<tr>
<td>1</td>
<td>The subject and place of Pediatrics, the main stages of development. 1. Definition of Pediatrics as a science. 2. The main periods of formation and development of Pediatrics in the world.</td>
<td>1,5</td>
</tr>
<tr>
<td>2</td>
<td>Organization of medical and preventive care for children in Ukraine Treatment and preventive care for children at the present stage in the light of medical reform in the world. 2. The role of the pediatrician and family physician in the current context. 3. Organization of work of children's somatic stationary department. 4. Organization of medical and preventive care for children in pre-school institutions.</td>
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#### Module 2 Anatomical and physiological features, methods of research and semiotics of diseases in children

<table>
<thead>
<tr>
<th>№</th>
<th>Topic</th>
<th>Number of hours</th>
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</table>
3. Laboratory indicators of disorders of protein metabolism in children.
4. Clinical signs of protein deficiency in the child's body

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<tbody>
<tr>
<td></td>
<td>1. The concept of assimilation, synthesis, dissimilation.</td>
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<td></td>
<td>2. Features of carbohydrate and lipid metabolism in different ages of childhood.</td>
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<tr>
<th>5</th>
<th>Water-electrolyte and acid-alkaline exchange in children.</th>
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<tbody>
<tr>
<td></td>
<td>1. Water sectors of the body of children in norm, their calculation.</td>
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<td></td>
<td>2. Daily requirement of children’s organism in water and electrolytes, calculation method.</td>
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<td>4. Types of dehydration.</td>
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<th>6</th>
<th>Vitamins, their importance for the development of the baby.</th>
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<tbody>
<tr>
<td></td>
<td>1. Vitamins, their importance for the development of the baby.</td>
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<tr>
<td></td>
<td>3. Сучасні підходи до профілактики рахіту у дітей раннього віку</td>
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<th>7</th>
<th>Mixed feeding of the baby.</th>
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<tr>
<td></td>
<td>2. Reasons for transferring children to partial (mixed) breastfeeding.</td>
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<tr>
<td></td>
<td>3. Current requirements for artificial breast milk substitutes used for partial breastfeeding (mixed) feeding</td>
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Note: * - self-study of topics that are not included in the plan of classes, is carried out by writing summery with submission to check by the teacher.

Individual tasks - are not provided by the working curriculum

List of theoretical questions for applicants’ for higher education preparing for final module control and semester final certification

List of theoretical questions to the final module control № 1

1. Definition of Pediatrics as a science.
2. Organization of work of children's somatic stationary department.
3. Organization of medical and preventive care for children in pre-school institutions and boarding schools.
4. Basic statistical indicators of activity of medical-preventive establishments
5. Characteristics of periods of childhood.
6. Characteristics of the main types of growth of the child's body.
8. Features of the neonatal period.
9. Signs of full term of the baby and prematurity.
10. Physiological conditions of newborns.
12. Definitions of concepts "physical development of the child", "acceleration of development of children", "harmony of physical development".
13. The main hypotheses and mechanisms of acceleration.
14. Manifestations of delay and disharmonious physical development.
15. Basic anthropometric indicators necessary for the assessment of a child's physical development.
16. Formulas for determining age-appropriate physical development parameters.
17. Determination of psychomotor development of the child.
18. Indicators of psychomotor development in children of different ages.
19. Reflexes, which help to determine the psychomotor status of the child in first year of life.
20. Stages of language function’s formation of the child.
21. The stages of development of the visual and auditory analyzers of the child in the first year of life.
22. Types of higher nervous activity of the person, the main stages of its formation.
23. Factors that influence a child's psychomotor development:
25. Definition and benefits of natural feeding.
26. The concept of "free feeding", its forms and indications for appointment.
27. The value of breastfeeding for the health of the baby and mother.
29. Immunobiological role of breast milk.
30. The mode and nutrition of the nursing woman. Breastfeeding difficulties.
31. Methods of calculation of daily food volume and diet of children of different age.
32. Feeding and correction of nutrition of children who are naturally nourished.
33. The baby's need for protein, fat, carbohydrates and calories at natural feeding.
34. Features of feeding of preterm newborns.
35. The concept of artificial feeding of babies.
36. Classification and characterization of milk formulas for babies’ artificial feeding.
37. Guaranteed cow's milk.
38. Feeding technique and criteria for evaluating its effectiveness.
39. The baby's need for protein, fat, carbohydrates and calories at artificial feeding.
40. Forms and degrees of hypogalactia (primary, secondary, early and late).
41. Prevention of hypogalactia and mastitis.
42. Mixed feeding. Feeding techniques and rules.
43. The scheme of mixed feeding for children of the first year of life.
44. The baby's need for protein, fat, carbohydrates and calories at mixed feeding.
45. The need of children older than one year in proteins, fats, carbohydrates.
46. Anatomic and physiological features of the gastrointestinal tract in children older than 1 year.
47. Features of a diet of children of 1-3 years old.
48. Nutrition regimes for children 1-3 years old.
49. Daily food volume for children 1-3 years old.
50. Daily quota of products (milk, meat, bread, eggs, soft cheese, fruits, juices) in the menu of children 1-3 years old.
51. The concept of "perspective" menu.

**List of theoretical questions to the final module control № 2.**

1. Anatomical and physiological features of the brain and spinal cord in children.
2. Brain blood supply in children.
4. Terms of myelination of cerebrospinal and cranial nerves in children.
5. Unconditional reflexes of newborns, terms of their reduction.
7. Changes in cerebrospinal fluid at purulent and serous meningitis.
8. Semiotics of cerebral palsy.
9. Semiotics of hydrocephalus, features of cerebrospinal fluid at hydrocephalus.
10. Anatomical and physiological features of the epidermis, basal membrane, dermis in children.
11. Features of skin in newborns.
12. Features of structure and function of subcutaneous tissue in children.
13. Features of sweat and sebaceous glands, hair and nails in children.
14. Characteristics of different elements of the rash. List the primary inflammatory elements of the rash.
15. What are the elements of the primary non-inflammatory?
17. How does the skin color change at various diseases (respiratory, cardiovascular, infectious hepatitis, anemia)?
18. Manifestations of various infectious diseases on the skin and mucous membranes (measles, scarlet fever, chicken pox, pseudofurunculosis, neonatal vesicle, vesiculopustulosis).
19. Manifestations of exudative catarrhal diathesis on the skin.
20. Manifestations of subcutaneous fat disorders (degrees of obesity, degree of hypotrophy, scleroma, scleredema, adiponecrosis).
21. Characteristic signs of edema of cardiac and renal origin.
25. Signs of lesions of the muscular system in children (hypotension, hypertension, cerebral palsy, spasmodhilia, hyperkinesis, elegy).
27. Signs of damage of the bone system at rickets, scoliosis, congenital dislocation of the hip joint.
28. Features of blood supply to bones. The role of these features in norm and pathology. Features of the structure of periosteum, their value in norm and pathology.
29. Timing of closing the thighs. The timing of the formation of physiological bends of the back.
30. Timing and sequence of teething. The formula for the number of milk teeth.
31. Deformity of skull bones, chest, spine, pelvis, lower extremities at rickets.
32. Embryogenesis and anomalies of respiratory system development.
33. Anatomical and physiological features of the respiratory system in children depending on age.
34. Respiratory rate, respiratory volume, vital capacity of the lungs in children, depending on age.
35. Kinds of cough, variants of change of respiration at diseases of respiratory system.
36. Types of wheezing, their mechanism of occurrence, crepitus and noise of pleural friction.
37. Changes in percussion tone, mechanism of their occurrence.
38. Projection of lung particles on the chest.
40. Semiotics of exudative pleurisy.
41. Types of breathing in the child in norm and with pathology
42. Types of wheezing, mechanisms of their occurrence. Crepitation and noise of pleural friction.
43. Bronchophony, variants of its change, voice trembling
44. Semiotics of bronchopneumonia.
45. Semiotics of pneumonia depending on the stage of development of the inflammatory process.
46. Semiotics of simple and obstructive bronchitis.
47. Spirography, the main indicators of this method of study.
48. Embryogenesis of the cardiovascular system and congenital anomalies of the heart and blood vessels.
49. Features of blood circulation in the prenatal period.
50. Anatomical and physiological features of the heart and blood vessels in children, depending on age.
52. Characteristics of the heart rate in children, depending on age in norm. Possible causes of impulse disturbance, pulse deficiency
53. Characteristics of cardiac, apical impulse and feline murmur
54. The relative limits of the heart in children, depending on the age in norm and pathology.
55. Indicators of systolic and diastolic pressure in children depending on age.
56. Rules of auscultation of heart in children. Locations of projection of heart valves on a chest and places of their listening.
57. Auscultation algorithm of the heart.
58. Heart tones, their characteristics in norm.
59. The main causes of strengthening and weakening of heart tones.
60. Heart noises, their types.
63. Main signs of myocarditis.
64. The main signs of pericarditis.
65. Main signs of endocarditis.
66. The main differences between congenital and acquired heart defects in children.
67. Features of ECG in healthy children of different ages.
68. Echocardiography, method possibilities, indications.
69. Anatomical and physiological features of the oral cavity, salivary glands in children.
70. Phases of the act of sucking, anatomical features that facilitate this act for the infant.
71. Anatomical and physiological features of the esophagus in children, determination of the length of the probe for gastric lavage (gastroscopy).
72. Anatomical and physiological features of the stomach in children, including physiological volume (newborn, 3 months, 1 year), composition of gastric juice, major enzymes, types of gastric motility.
73. Anatomical and physiological features of the small and large intestine in children, including bowel motility.
74. Anatomical and physiological features of the liver and biliary tract, pancreas in children.
75. Frequency and nature of faeces of healthy children, depending on age and type of feeding according to Bristol scale
76. Semiotics of gastritis.
77. Semiotics of peptic ulcer.
78. Semiotics of chronic cholecystitis
79. Dyspepsia syndrome.
80. Malabsorption syndrome
81. Pylorostenosis and pylorospasm, semiotics, differential diagnosis.
82. Dysentery and intussusception, semiotics, differential diagnosis.
83. Anatomic and physiological features of kidneys in childhood and anomalies of development (hypospadias, epispadias, cryptorchidism, phimosis, hydrocele)
84. Histological features of kidneys in children.
85. Features of basic kidney function in children.
86. Anatomical and physiological features of the structure of the bladder in children. Amount of urination depending on age (1 month, 1 year, preschool age).
88. Features of general urine analysis depending on age, study by Nechyporenko, Zymnytsky, evaluation criteria.
89. Semiotics of dysuric and urinary syndrome in children.
90. The concept of incontinence and urinary incontinence, hematuria, leukocyturia, erythrocyturia, proteinuria, oliguria, anuria, polyuria, dysuria, hypostenuria, hyperstenuria, isostenuria, pollakuria, nocturia, stranguria, bacteriuria.
91. Semiotics of cystitis.
92. Semiotics of pyelonephritis.
93. Semiotics of glomerulonephritis.
94. Features of hematopoiesis in children.
95. Anatomical and physiological features of bone marrow in childhood.
96. Physico-chemical and biochemical properties of blood in children (total protein, fractions)
97. Features of erythrocyte unit of blood system in children.
98. Features of leukocyte blood system in children.
99. Criteria for evaluating the peripheral blood of a healthy child, depending on age.
100. The concept of leukocytosis, leukopenia, erythroblastosis, lymphocytosis, lymphopenia, neutrophilosis, neutropenia, eosinophilia, eosinopenia, monocytosis, anisocytosis, polychromatophilia, poikilocytosis.
102. Clinical-hematological semiotics of hemolytic syndrome.
103. Clinical-hematological semiotics of hemorrhagic syndrome.
104. Clinico-hematological characteristics of acute leukemia.
105. Clinico-hematological characteristics of chronic leukemia.
106. Features of functioning of endocrine glands in childhood.
107. Anatomical and physiological features of the thyroid gland. Signs of hyper- and hypofunction of the thyroid gland.
110. Anatomic and physiological features of the endocrine part of the pancreas.
111. Semiotics of diabetes in children.
112. Anatomic and physiological features of the adrenal glands.
113. Signs of acute and chronic adrenal insufficiency.
114. Anatomical and physiological features of thymus in children
115. Features of the state of cellular and humoral units of immunity
116. Basic indicators of an immunogram in childhood
120. Features of lipid metabolism in children, semiotics of disorders.
121. Features of water-electrolyte exchange in children, semiotics of disorders.
122. Vitamins, their importance for the development of the baby.
123. Semiotics of hypo- and hypervitaminosis in children.

List of practical tasks and works
to the final module control № 1.
1. Collection of anamnesis of the child and his parents
2. Assessment of the general condition of the sick child
3. Examination of a newborn baby.
4. Assessment of the physical development of the child using the methods of formulas, standard-sigma and centile tables.
5. Assessment of psychomotor development of the child
6. Preparing a diet for a healthy baby in the first year of life.
7. Carrying out control feeding of the child of the first year of life.
8. Preparation of a diet for a healthy child of 1-3 years old.

List of practical tasks and works
to the final module control № 2
2. General and special examination of the child for evaluation of the nervous system.
3. Investigation of the function of I-XII pairs of cranial nerves.
4. Checking of superficial, deep reflexes and sensitivity (temperature, vibration, pain), musculoskeletal sensation in children.
5. Assessment of the state of the autonomic nervous system
7. Checking for meningeal symptoms.
8. Examination of pathological reflexes in children.
9. Auxiliary methods (instrumental, laboratory) at the study of the nervous system.
11. Examination of skin and mucous membranes in children.
12. Subcutaneous fat tissue examination.
13. Palpation of skin and subcutaneous tissue: determination of humidity, temperature and thickness of skin folds, thickness of subcutaneous base, etc.
14. Assessment of the degree of obesity, hypotrophy.
15. Examination of bones and muscles.
17. Palpation of bones and muscles.
18. Assessment of the status of the thymus.
19. Assessing the physique of the child.
20. Tests for increased muscular excitability.
22. Studies for the establishment of congenital hip dislocation.
23. General and special examination of the child with respiratory diseases.
24. Calculation of respiratory rate in a child.
25. Palpation of the chest in a child with respiratory diseases.
27. Topographic lung percussion.
29. Auscultation of the lungs.
30. Evaluation of auscultatory phenomena.
31. Interpretation of spirogram data at various diseases of the bronchopulmonary system.
32. General and special examination of the cardiovascular system.
33. Evaluation of the characteristics of the baby's pulse.
34. Palpation of cardiac, apical impulses.
35. Palpation of vessels.
36. Determination by percussion of relative and absolute boundaries of the heart.
37. Measurement and interpretation of blood pressure in children of different ages.
38. Auscultation of the heart.
39. Recording of an electrocardiogram, calculation of intervals, teeth of the ECG, interpretation.
40. Recording and interpretation of phonocardiogram.
41. Assessment of circulatory failure of a sick child.
42. General and special examination of the child with diseases of the digestive system.
43. Superficial and deep palpation of the abdomen in children.
44. Palpation of the liver.
45. Percussion and auscultation of the abdominal cavity in children.
46. Palpation-percussion symptoms of appendicitis.
47. Palpation-percussion symptoms of cholecystitis.
48. Palpation-percussion symptoms of gastroduodenitis.
49. Palpation-percussion symptoms of pancreatitis.
50. Evaluation of defecation of children according to the Bristol scale.
51. Review of the urinary system in children.
52. Palpation of the kidneys and bladder.
53. Percussion of the bladder, a symptom of Pasternatsky.
54. Evaluation and interpretation of general urine analysis according to age, results of urine analysis according to Nechyporenko, Zymnytsky.
55. Review of blood system in children.
56. Palpation of the spleen.
57. Bone percussion in children with diseases of the blood system.
58. Interpretation of changes in general blood test.
59. Examination, palpation of the thyroid gland, identification of signs of hyper- and hypofunction of the thyroid gland.
60. Establishment of signs of hyper- and hypofunction of parathyroid glands.
62. Determination of signs of hyper- and hypofunction of the adrenal glands.
64. Examination and palpation of lymph nodes in children.

Form of final control of learning success: final module control (FMC)

Current and final control system
Control of knowledge on the study of the discipline is carried out in the form of:
- current control, which is carried out at each practical lesson and allows you to identify the level of mastery of individual elements of educational material;
- final module control - serves to test and evaluate knowledge, skills and abilities in the discipline by testing, interviewing and monitoring practical skills. The following means of diagnosing the level of
preparation of applicants for higher education are used: test control, oral examination on theoretical issues to the PMC, control of practical skills and abilities in accordance with the list of practical skills to the PMC is structured according to the procedure.

Assessment of current educational activity: when mastering each topic of the module for current educational activity of the applicant for higher education, grades are set on a 4-point traditional scale. At the same time, standardized generalized criteria for assessing applicants’ for higher education knowledge are used (Table 1).

| Standardized generalized criteria for knowledge assessment of applicants for higher education in PSMU |
|---|---|---|
| On a 4-point scale | Assessment in ECTS | Evaluation criteria |
| 5 (excellent) | A | The applicant for education shows special creative abilities, is able to acquire knowledge independently, finds and processes the necessary information without the help of the teacher, is able to use the acquired knowledge and skills for decision-making in unusual situations, convincingly argues answers, independently reveals own talents and inclinations, possesses not less than 90% of knowledge on the topic both during the survey and all types of control. |
| 4 (good) | B | The applicant for education is fluent in the studied amount of material, applies it in practice, freely solves tasks and problems in standardized situations, independently corrects errors, the number of which is insignificant, has at least 85% knowledge of the topic both during the survey, and all types of control. |
|  | C | The applicant for education is able to compare, summarize, systematize information under the guidance of a scientific and pedagogical worker, in general, independently apply it in practice, control their own activities; to correct mistakes, including significant ones, to choose arguments to confirm opinions, has at least 75% knowledge on the topic both during the survey and all types of control. |
| 3 (satisfactory) | D | The applicant for education reproduces a significant part of the theoretical material, shows knowledge and understanding of the basic provisions with the help of scientific and pedagogical worker, can analyze educational material, correct errors, including a considerable number of significant ones, has at least 65% knowledge of the topic both during the survey and all types of control. |
|  | E | The applicant for education possesses educational material at a level higher than the initial, a significant part of it is reproduced at the reproductive level, has at least 60% knowledge of the topic both during the survey, and all types of control. |
| 2 (unsatisfactory) | FX | The applicant for education possesses the material at the level of individual fragments that make up a small part of the material, has less than 60% knowledge of the topic both during the survey and all types of control. |
|  | F | The applicant for education possesses the material at the level of elementary recognition and reproduction of individual facts, elements, has less than 60% knowledge of the topic both during the survey, and all types of control. |

The grade is given by the teacher in the "Journal of attendance and applicant’s for higher education learning success" and synchronously in the "Electronic Journal" at the end of the lesson or
after checking individual tests (written work, solving typical or situational problems and test tasks), but not later than 2 calendar days after the lesson.

Assessment of current learning success is integrated (all types of applicant’s for higher education work are evaluated both in preparation for class and during class) according to the criteria that are brought to the notice for applicants for higher education at the beginning of the study of the discipline. Conversion of the current grade, set by the traditional 4-point scale, in multi-point scale is not carried out in each lesson.

Conversion of the total assessment of current learning success for the module is carried out only after the current lesson, which precedes the final module control. Conversion of a grade by a traditional 4-point scale into a multi-point scale (maximum score of current learning success - 120 points) is carried out according to the following algorithm:

- calculates the average applicant’s for higher education grade by the traditional 4-point scale, obtained during the current classes belonging to this module (up to the nearest hundredth point);
- the average score of current learning success is calculated on the total number of classes in the module, and not on the actual number of applicants for higher education;
- to obtain a convertible multi-point total assessment of current performance for the module, table 2 is used.

The minimum convertible sum of points of current learning success which the applicant for higher education should receive, for all modules of all disciplines of all departments is single and makes 72 points.

**Table №2**

*Unified table of correspondence of scores for current learning success, scores for FMC, exam and traditional four-point score.*

<table>
<thead>
<tr>
<th>Average score for current learning success (A)</th>
<th>Points for current learning success in the module (A * 24)</th>
<th>Points for FMC from the module (A*16)</th>
<th>Points for the module and / or exam (A<em>24 + A</em>16)</th>
<th>ECTS category</th>
<th>By 4-point scale</th>
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Assessment of applicants’ for higher education individual work, which is provided in the topic along with classroom work, is carried out during the current control of the topic in the relevant classroom training. Assessment of topics that are submitted to extracurricular individual work and are not included in the topics of classroom training, is controlled by the final module control.

**Final module control** is a form of control, which is carried out at the last lesson of the credit module. The amount of material and evaluation criteria for the final module control are determined by the department in the working curriculum and are reported to applicants for higher education before the start of training. Standardized control methods must assess the theoretical and practical preparation of the applicant for higher education in accordance with the requirements of the work program.

Applicants for higher education who have scored the required minimum number of points during the current control (average grade point of learning success is 3.0 and more, or the converted amount of points not less than the minimum - 72 points), do not have missed passes of lectures and practical
classes, have mastered the topics rendered for individual work within the module, are admitted to the FMC.

The presence of a grade of "2" for current performance does not deprive the applicant for higher education of the right to admission to the final module control with a minimum number of points for current learning success. The applicant for higher education is not entitled to retake the current grades "2" if he has the minimum amount of points for admission to control measures. Current scores of "3" or "4" do not retaken.

The applicant for higher education is required to retake "2" if the average grade point of current learning success for the module does not reach the minimum (3.0 points) for admission to the FMC.

**Taking the FMC is carried out in writing.**

Tickets to FMC from module 1 "Child development. Breastfeeding" and module 2 "Anatomical and physiological features, research methods and semiotics of diseases in children" has the following structure:

1. First level tests in the amount of 20, which control the theoretical knowledge on all topics of the module and have one correct answer. The correct answer to each test is estimated at 1 point (20 x 1 = 20 points).
2. 5 situational tasks, each of them has two questions. The correct answer to each question is estimated at 5 points, ie, for each task the applicant for higher education can get 10 points (5 x 2 = 10 points per task, ie 5 tasks - 50 points).
3. 2 tasks on laboratory research methods (interpretation of blood and urine analysis). Each skill is evaluated in 0-5 points (ie 2 tasks - 10 points).

**The number of points** that a applicant for higher education can score based on the results of the final module control: **maximum - 80, minimum - 50.**

The applicant for higher education has the right to compile and re-compile FMC. Permission to retake FMC is issued by the dean of the department in the form of "Personal statement of reorganization of final control" which the applicant for higher education receives in the dean's office with personal signature upon presentation of individual curriculum and (if necessary) information from the the department about debt liquidation (absence of "nb", average grade point of learning success is 3.0 and more).

**Assessment per module** is defined as the sum of assessments of current learning activities (in points) and assessment of final module control (in points), which is set when assessing theoretical knowledge and practical skills in accordance with the lists defined by the working curriculum of the discipline. The FMC score is evaluated in points and is not converted into a traditional 4-point score. The maximum number of points assigned to applicants for higher education when mastering all topics of the module (credit) - **200**, including for current educational activities - **120** points, according to the results of the final control - **80** points.

Criteria for assessing FMC are determined by the department, approved by the cyclic methodological commission of the university and brought to the notice of applicants for higher education at the beginning of the discipline (the first lecture and practical lesson).

Applicants for higher education who during the study of a particular discipline, the form of control of which is the final module control have an average grade point of current learning success of 4.50 to 5.0 are exempt from FMC and automatically (by agreement) receive a final grade in accordance with table 2, the presence of the applicant at the FMC is mandatory. In case of disagreement with the assessment, the specified category of applicants for higher education makes FMC according to the general rules.

The obtained points for the module are presented by the teacher in the "Statement of applicant’s for higher education learning success in the discipline" and the individual curriculum of the applicant for higher education. Information about applicants for higher education who did not pass the final module control, with the exact indication of the reason for non-enrollment is also included in the "Statement of applicant’s for higher education learning success in the discipline" and individual curricula of applicants for higher education. The reasons for non-enrollment may be as follows:

a) the applicant for higher education has unworked absences from classes and (or) lectures. Mark "n/f" in the column "points for FMC";
b) the applicant for higher education attended all classes (practical and lecture), but did not score the minimum number of points for the current educational activity and is not allowed to the final module control. Mark "n/a" in the column "points for FMC";

c) the applicant for higher education did not come for the final module control. Mark "n/c" in the column "points for FMC".

"Statement of applicants’ for higher education success in the discipline" after filling in by the teacher, is signed by the head of the department and submitted to the dean's office no later than the next working day after the last module control by the head of the educational part of the department.

The applicant for higher education has the right to take and re-take FMC until the end of the discipline. With the permission of the rector or the first vice-rector of the university, individual applicants for higher education may individually get an additional term for compiling (re-compiling) of final module controls.

The grade in the discipline is set on the basis of the sum of points of current learning success and points obtained by FMC.

Teaching methods:
- **verbal** (lecture, problem lecture, lecture-dispute, explanation, story, conversation, instruction);
- **visual** (observation, illustration, demonstration);
- **practical** (conducting an experiment, practice);
- **explanatory-illustrative** or **information-receptive**, which provide the presentation of ready-made information by the teacher and its assimilation by applicants for higher education;
- **reproductive**, which are based on the performance of various tasks according to the sample;
- **a method of problem statement**, which consists in the fact that the teacher poses a problem and solves it himself, demonstrating the contradictions that characterize the process of cognition. This method is implemented by training problem situations in order to successfully prepare for future work in real conditions of practical medical institutions;
- **partial-search** or **heuristic**, aimed at mastering certain elements of search activity;
- **research**, the essence of which is to search creative activities of applicants for higher education by setting new problems and tasks organized by the teacher;
- **methods that provide perception and assimilation of knowledge** by applicants for higher education (lectures, individual work, instruction, consultation).

Discussion, debate, brainstorming are used in classes. The purpose of the discussion is to develop skills of creative thinking, education of communication culture, development of communication skills, as well as expansion and deepening of existing and assimilation of new knowledge. Discussion promotes better learning. Brainstorming (brain attack) - a method of group problem solving, in which everyone expresses ideas and possible solutions to the problem.

Control methods:
- oral control;
- written control;
- test control;
- programmable control;
- practical control;
- self-control;
- self-esteem.

Methodical support
1. Thematic plans of lectures, practical classes and individual work of applicants for higher education.
2. Methodical instructions for individual work of applicants for higher education during preparation for practical classes.
3. Methodical instructions for individual work of applicants for higher education on studying of the subjects submitted for self-study.
4. Methodical developments, multimedia presentations of lectures on discipline.
5. Professional algorithms for mastering professional skills and abilities (included in the guidelines for applicants for higher education).
6. Test tasks for control of content modules.
7. Test tasks for the final module control.
8. The list of theoretical questions to FMC Module 1 "Child development. Breastfeeding".
10. The list of theoretical questions to FMC Module 2 "Anatomical and physiological features, methods of examination and semiotics of diseases in children".
11. List of practical skills for FMC Module 2 "Anatomical and physiological features, methods of examination and semiotics of diseases in children".

**Recommended literature**

**Main:**


**Additional:**


**Information resources:**

- [https://www.who.int/nutrition/publications/infantfeeding/9241541601](https://www.who.int/nutrition/publications/infantfeeding/9241541601)
- [https://www.cdc.gov/growthcharts/](https://www.cdc.gov/growthcharts/)
- [https://www.who.int/childgrowth/standards](https://www.who.int/childgrowth/standards)