SYLLABUS
of the discipline Pediatrics

Name of the course: Pediatrics
Code of the course: S.08.O.044
S.09.O.059
S.10.O.059
Type of course: Compulsory
Total hours – 280
Including lectures – 80 hours, practical classes – 200 hours
Number of credits allocated to the course unit: 9

Lecturers who teach course units:
Lilia Romanciuc, MD, PhD, Associate Professor
Ana Guragata, MD, PhD, Associate Professor
Angela Cintu, MD, PhD, Associate Professor
Florin Cenușa, MD, PhD, Associate Professor
Adrian Rotaru, MD, PhD, Associate Professor
Olga Cîrstea, MD, PhD, Clinical Lecturer
Oxana Turcu, MD, PhD, Clinical Lecturer

Chisinau 2014
The discipline “Pediatrics” is studied in three stages: Healthy Child Growth and Development (IV year), and General Pediatrics (IV and V year).

I. **Aim of the discipline**

Training in Pediatrics has the aim to learn anatomical and functional features of child’s organism depending on age, to achieve basic knowledge of medical semiology and practical skills of diagnosis, treatment and prophylaxis of childhood diseases. The major goal of pediatrics is the preventive work. Also, students will learn diseases and disorders of different organs and systems specific for different child’s age.

II. **Objectives to achieve during the course**

At the level of learning and understanding

1. Obtaining knowledge of medical terminology
2. Obtaining of necessary knowledge to identify main syndromes of childhood diseases
3. To learn about basic anatomical, physiological, functional and morphological features of the child’s body according to the age
4. Principles of nutrition for healthy and sick children of different ages.
7. Basic principles of pediatric diseases: etiology, pathogenesis, typical clinical manifestations of the disease in childhood, the principles of diagnosis, treatment and prevention of these diseases.
8. Indications and contraindications for the use of laboratory methods, diagnostic tools, and other diagnostic methods in pediatrics.
10. Indications and contraindications for treatment with drugs approved in pediatrics.

At the level of applying the achieved knowledge

1. Medical records and documentation in use: patient’s file, evolution of the treatment and discharge report.
2. Anthropometric measurements in assessing child physical development of various ages.
3. Techniques and methodologies for the collection of a case history (interview).
4. Performing a general physical exam and review of systems in a child of different ages.
5. Assessment of the neuro-psychological development in children of different ages.
6. Assessment of the nutritional status of children, prescription of the diet for children of different ages.
7. Recognition of vital signs and symptoms, clinical signs of different diseases, major syndromes in childhood.
9. To show and interpret the results of instrumental investigations, imaging studies, etc.
10. Making a definitive clinical diagnosis according to existing classifications.
12. Prescribing necessary treatment indications according to the established diagnosis, drawing of the prevention and rehabilitation program.
13. Drawing of the follow up and rehabilitation program for patients with chronic diseases.
15. Promotion of the principles of ethics and deontology in children’s healthcare.
16. Clinical cases presentation.
17. Education of mothers about the child’s health issues.

At the level of knowledge integration
1. To assess the importance of Pediatrics discipline in the context of General Medicine and integration with health related disciplines.
2. To develop knowledge of the integrated approach to healthy and sick child, and principles of child’s healthcare.
3. To promote the implementation of new knowledge and principles of healthcare for proper development of health workers in all sub-specialities, parents and care givers.
4. To achieve knowledge about the evolution of physiological processes in the body of the child, and risk factors for the occurrence of disease in childhood.
5. To integrate the knowledge about principles of child healthcare with new methods of child development stimulation, as well as with current guidelines and protocols approved by the Ministry of Health of the Republic of Moldova.
6. To learn and develop principles of diagnostic approach, diagnosis and clinical decision making.
7. To implement during the university program the approach for child’s healthcare for the level of family medicine.

III. Conditionalities and requirements prior the studies:
Pediatrics is one of the core subjects in the university training of medical doctors. Childhood period has specific features in its evolution, beginning with birth and ending with adolescence.

Pediatrics is a fundamental discipline that differs from internal medicine field. The field of pediatrics is large and complex, and it includes aspects of preventive, curative, social, developmental medicine. During this course the future specialist studies and endorses practical skills and modern methods of diagnosis, treatment and prevention of various diseases in children. During the pediatric course students apply and integrate their fundamental knowledge (anatomy, physiology, microbiology, etc.) with other disciplines - neonatology, neuropediatrics, infectious diseases in children, pediatric surgery, etc.

IV. Basic content of the course
A. Lectures

<table>
<thead>
<tr>
<th>Nr</th>
<th>Theme</th>
<th>Number of hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>History of pediatrics and its objectives. Anatomical and physiological specific features of teguments, mucosae and derivatives (hairs, nails), subcutaneous adipose tissue in children according to the age. Semeiology of teguments, mucosae, adipose tissue, muscles and bones diseases in different ages.</td>
<td>3</td>
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<tr>
<td>3.</td>
<td>Diseases of the digestive system in children. Anatomical and physiological</td>
<td>2</td>
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</tbody>
</table>
6. Anatomical and physiological specific features of the nervous system in children. Symptoms and syndromes of diseases. Methods of supplemental investigations. 2
7. Fever and hyperthermic syndrome in children. Febrile convulsions (seizures) in children. 2
8. Semiology of respiratory system diseases in children. 3
10. Chronic bronchopulmonary diseases in children. 3

**TOTAL** 30

**B. Practical lessons.**

<table>
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<tr>
<th>Nr</th>
<th>Theme</th>
<th>Number of hours</th>
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<tbody>
<tr>
<td>4.</td>
<td>Anatomical and physiological specific features of teguments, mucosae and their derivatives (hair, nails), subcutaneous adipose tissue in children according to the age. Anatomical and physiological specific features of the immune system in children. Critical periods in the development of immune response.</td>
<td>7</td>
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</tbody>
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<tr>
<th>Nr</th>
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<th>Number of hours</th>
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<tbody>
<tr>
<td>5.</td>
<td>Primary and secondary immunodeficiencies in children.</td>
<td>7</td>
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A. Lectures

<table>
<thead>
<tr>
<th>Nr</th>
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<tbody>
<tr>
<td>1.</td>
<td>Semeiology of cardiovascular system diseases in children.</td>
<td>2</td>
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<tr>
<td>2.</td>
<td>Congenital heart malformations.</td>
<td>3</td>
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<tr>
<td>3.</td>
<td>Cardiac arrhythmias in children and adolescents.</td>
<td>2</td>
</tr>
<tr>
<td>4.</td>
<td>Primary cardiomyopathies. Diseases of the myocardium and pericardium in children.</td>
<td>3</td>
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<tr>
<td>5.</td>
<td>Acute and chronic cardiac failure in children.</td>
<td>2</td>
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<tr>
<td>6.</td>
<td>Semeiology of hematopoietic system diseases in children.</td>
<td>2</td>
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<tr>
<td>7.</td>
<td>Deficient anemias in children.</td>
<td>2</td>
</tr>
<tr>
<td>8.</td>
<td>Hemorrhagic diatheses in children.</td>
<td>2</td>
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<tr>
<td>10.</td>
<td>Semeiology of rheumatic diseases. Acute rheumatic fever in children.</td>
<td>3</td>
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</tbody>
</table>

TOTAL 75
12. Bronchial asthma in children. 2
13. Semiology of urinary system diseases in children. 2
15. Acute and chronic glomerulonephritis in children. 2
TOTAL 50

B. Practical lessons.

<table>
<thead>
<tr>
<th>Nr</th>
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<th>Number of hours</th>
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<tbody>
<tr>
<td>8.</td>
<td>Acute and chronic glomerulonephritis in children. Nephrotic syndromes.</td>
<td>5</td>
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<tr>
<td>11.</td>
<td>Acute and chronic pancreatitis in children.</td>
<td>5</td>
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</tbody>
</table>


18. Congenital cardiopathies in children. 5

19. Acute and chronic cardiac failure in children. 5

20. Cardiac arrhythmias in children and adolescents. 5


23. Bronchial asthma in children. 5

24. Assessment of general dangerous signs in children in connection with age. 5

25. Complex examination: attestation of practical skills in pediatrics, test-control, oral examination. 5

TOTAL 125

Note: Each subject includes definition, etiology, incidence, classification, pathogenesis-physiopathology, morphopathology, predisposing factors, clinical picture, paraclinical investigations, positive diagnosis, differential diagnosis, treatment, prognosis, prophylaxis, follow-up.

SYLLABUS

Pathology of little age child.


Specific and nonspecific prophylaxis of iron deficiency in children. evolution. Complications.
Prognosis. Follow-up.

Definition. Classification. Etiology (exogenous and endogenous factors). Clinical and paraclinical
picture in different degrees of malnutrition. Diagnosis. Treatment depending on the degree
(regime of life, alimentation, steps of dietotherapy, medicamentous treatment depending on

5. **Rickets.** Definition. Incidence. Etiology. Metabolism of vitamin D. Physiological effects of
Positive diagnosis. Differential diagnosis. Treatment (diet, drugs). Preparations of vitamin D,
curative dose of vitamin D depending on the disease degree. Prophylaxis (antenatal and
postnatal, specific and nonspecific). Follow-up. Spasmophilia (rickets hypocalcemias).
Definition. Etiopathogenesis. Role of calcium, potassium, magnesium etc. ions concentration
disturbances in the manifestations of tetany. Favorising factors. Clinical manifestations (latent
tetany, manifesting tetany). Paraclinical explorations. Differential diagnosis. Treatment:
nonspecific measures (ensurance of airway releasing and good oxygen saturation, prevention of
mechanical lesions), medicinal treatment in confirmed rickets induced tetany. Evolution and

Classification. Clinical and paraclinical features. Positive and differential diagnosis. Principles of

Physical methods of keeping fever down. Medical assessment in inexplicable fever. Febrile
Treatment of a child with febrile convulsions. Prognosis.

Recidivating (recurrent) bronchitis. Etiologic and predisposing factors. Pathogenesis,
pathomorphology. Clinical and paraclinical specific features. Principles of treatment and
rehabilitation.

Treatment. Evolution, prognosis and dispensary control. Prophylaxis.

Clinical and paracritical, radiologic specific features in different clinicomorphological forms of
pneumonias (focal, confluent, segmentary, lobar, interstitial pneumonia) and after etiology (viral,
ataypical, staphylococcal etc.). Pathomorphology. Positive and differential diagnosis. Pulmonary
and extrapulmonary complications in pneumonias (abscess, bullae, pneumothorax,
pyopneumothorax, atelectasis, pleuresies, toxico-septic syndrome, etc.). Diseases of pleura

11. **Allergic diseases and immune system in children.**


13. **Diseases of cardiovascular system in children.**

differential diagnosis. Nonpharmacologic treatment (general measures, hygienodietetic regime); pharmacologic treatment, special treatments. Prophylaxis. Complications. Follow-up.


Rheumatic and immunologic diseases in children.


Pathology of digestive system in children.


Pathology of urinary system in children.


Hematologic diseases in children.


**Pathology of adolescents.**


V. **Recommended literature:**
   A. **Compulsory**
   3. Lection on the theme.

   B. **Additional**

VI. **Teaching methodology:** lectures, practical classes (seminars).
   **Forms of practical lessons** (duration – 5 academic hours in conformity with the universitary curriculum).
   A sick child is the principal object of study at practical classes. Each theme provided for the syllabus is presented by student’s reports and discussion of sick children with respective nosologic form of the disease with active participation of students of the group.
   **The structure of a seminar is as follows:**
   1. Presentation of pediatric department specific features conformable to respective theme.
   2. Presentation of pediatric case reports on the studied theme.
   3. Recapitulation: growth and development, feeding, notions of etiology, pathogenesis, physiopathology of discussed diseases, particularities of examination of patients.
   4. Visit of patients with the discussion of clinical picture of patient’s disease, case specific features, argumentation of diagnosis, treatment recommendations.

VII. **Suggestions for individual activity of the student.**
   • Examination – direct observation of sick children and making case report (making records on pulse, temperature, BP, respiratory rate, weight gain curve, stools etc.);
   • Observation and participation in taking samples for analyses, giving injections, administration of treatment procedures, etc.;
- Attending patients at paraclinical investigations, instrumental examinations;
- Interpretation of laboratory analyses, instrumental investigations results in a particular clinical context;
- Argumentation of diagnosis, drawing up a plan of investigations and treatment for each particular clinical case, learning specificity of administration of drugs to children (on kg/mass);
- Making a case report (daily evolution of disease) under the guidance of a lecturer;
- Presentation of a case;
- Taking part in rounds of an in-patient department.

**List of practical skills for students, Faculty of Medicine, discipline Pediatrics**

1. Anamnesis in pediatrics – specific features.
2. Clinical (physical) complete examination of children of different ages.
4. Anthropometric measurements (anthropometry, somatometry, somatoscopy, physiometry) in children of different ages.
5. Assessment of nutritional status (ponderal index, nutritional index) of a child of 0-3 years old.
6. Assessment of child’s physical development.
7. Assessment of psychomotor development of children of different ages.
8. Administration of medication to children of different ages.
9. Interpretation of child’s laboratory investigations results: hemoleukogram, urinalysis, coprogram and others.
10. Interpretation of child’s biological investigations results (blood, urine, fecal masses, cerebrospinal fluid, others).
11. Interpretation of child’s image investigations results (echography, radiography, scintigraphy, echocardiography, others).
15. Drawing-up of follow-up plan in patients with chronic diseases.
16. Interpretation of respiration functional indexes (spirometry, pickflowmetry).
17. Technique of blood pressure measurement in children of different ages.
18. Interpretation of ECG indices in healthy and sick children.
19. Determination of radiologic pathologic process stage (by method of Steinbroker) in JIA.
20. Assessment of rickets degree and period.
21. Interpretation of endoscopic examination results – EGDS.
22. Presentation of clinical case report.

**VIII. Assessment of knowledge**

**Current:** Daily checking of theoretical knowledge, practical skills, perfecting medical documentation, multiple choice test, pediatric clinical observation sheet, case presentation, totalisation (formative assessment), as follows:

- Totalization 1: Child growth and development (written subjects, practical);
Assessment of practical skills acquired during the course is made in the last day of the practical lessons. Assessments of practical skills include 2 samples:

a) examination of a patient with assessing and presenting signs / practical maneuvers, appreciation of the physical, neuro-psychological, as elaborated tickets
b) assessment of child nutrition and correct prescription of the diet (food intake).

The conclusions are formulated and argued in writing.

Pediatrics discipline exam is one combined consisting of test (variant, Test Editor "SMPU, Nicolae Testemitanu") and oral exam. The sample of test consists of 100 tests in all subjects of Pediatrics (40 tests are simple choice and 60 multiple choice tests). The student has two hours to respond to the test. Sample is marked from 0 to 10.

The oral test includes knowledge exposure on topics from tickets. Each ticket is composed of three topics. Topics for exam (tests and the list of subjects for the oral test) are presented to the students at least one month before the session.

The final grade consists of the following components: annual average mark (coefficient 0.3), practical skills (coefficient 0.2) multiple-choice test (coefficient 0.2) oral test (coefficient 0.3). Knowledge is assessed with marks from 10 to 1 without decimals as follows:

- Grade 10 or ‘excellent’ (equivalent ECTS - A) will be given for acquiring 91-100% of the material;
- Grade 9 or ‘very good’ (equivalent ECTS - B) will be given for acquiring 81-90% of the material;
- Grade 8 or ‘good’ (equivalent ECTS - C) will be given for acquiring 71-80% of the material;
- Grade 6 and 7 or ‘satisfactory’ (equivalent ECTS - D) will be given for acquiring 61-65 and 66-70% respectively of the material;
- Grade 5 or ‘weak’ (equivalent ECTS - E) will be given for acquiring 51-60% of the material;
- Grade 3 and 4 (equivalent ECTS - FX) will be given for acquiring 31-40% and 41-50% of the material;
- Grade 1 and 2, or ‘unsatisfactory’ (equivalent ECTS - F) will be given for acquiring 0-30% of the material;

**Method of the grades rounding**

<table>
<thead>
<tr>
<th>The sum of notes from current assessments and final examination</th>
<th>Final grade</th>
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<tbody>
<tr>
<td>5</td>
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<tr>
<td>5,1-5,5</td>
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<td>5,6-6,0</td>
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<td>6,1-6,5</td>
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<td>6,6-7,0</td>
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<td>7,1-7,5</td>
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<td>7,6-8,0</td>
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<td>8,1-8,5</td>
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<td>8,6-9,0</td>
<td>9</td>
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<td>9,1-9,5</td>
<td>9,5</td>
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<tr>
<td>9,6-10</td>
<td>10</td>
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</tbody>
</table>
The absence from the examination without good reason is recorded as ‘absent’ and is equivalent to the grade 0 (zero). The student is entitled to two repeated attempts of the failed exam.

**IX. Language of instruction:**
Romanian, Russian, English, French.