MINISTRY OF HEALTH OF UKRAINE

**BUKOVINIAN STATE MEDICAL UNIVERSUTY**

## 

|  |  |
| --- | --- |
|  | **"APPROVE"** |
|  | Vice-rector for scientific and pedagogical work |
|  | Associate Professor \_\_\_\_\_\_\_\_\_\_\_\_\_\_I.V. Gerush |
|  | “\_\_\_\_\_” \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2021 |

**STUDENT GUIDE**

**(SYLLABUS)**

**of studying the discipline**

**TOPICAL ISSUES OF INTENSIVE THERAPY AND EMERGENCY CARE IN PEDIATRICS**

**Field of knowledge** \_\_22 Healthcare\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_­­­­­­­­­­­­­­\_\_\_

(code and name of the field of knowledge)

**Specialty**\_\_\_\_222 Medicine\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(code and name of the specialty)

**Educational degree**\_\_\_Master\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(master, bachelor, junior bachelor)

**Educational year**\_\_\_2021-2022\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Form of study** \_\_\_full-time\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(full-time, part-time, distance)

**Department** of pediatrics, neonatology and perinatal medicine\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of the department)

Approved at the methodical session of the department of pediatrics, neonatology and perinatal medicine "27" August 2021 (Protocol №1).

Head of the Department \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Nechytailo Yu. M.

(signature)

Approved by the subject methodical commission on pediatrics, obstetrics and "21" August 2021 (Protocol №1).

Chairman of the subject methodical

commission \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Kravchenko O.V.

(signature)

Chernivtsi – 2021

**GENERAL INFORMATION**

1. **GENERAL INFORMATION ABOUT SCIENTIFIC AND PEDAGOGICAL WORKERS WHO TEACH THE SUBJECT**

|  |  |
| --- | --- |
| **Department** | Pediatrics, neonatology and perinatal medicine |
| **Surname, name of scientific and pedagogical staff, scientific degree, academic status** | Nechytailo Yu. – professor, head of the department  Kovtiuk N. – associated professor, PhD  Nechytailo D. - associated professor, PhD  Buriak O. - associated professor, PhD |
| **Web page of the department on the official website of the university** | https://www.bsmu.edu.ua/pediatriyi-neonatologiyi-ta-perinatalnoyi-meditsini/ |
| **Department website** | https://propped.bsmu.edu.ua |
| **E-mail** | prop\_ped@bsmu.edu.ua |
| **Address** | Bukovinska str. 4 |
| **Contact phone** | 0372564274 |

1. **GENERAL INFORMATION ABOUT THE DISCIPLINE**

|  |  |
| --- | --- |
| **Status of the discipline** | normative |
| **Number of credits** | 3 |
| **Total amount of hours** | 90 |
| **Lectures** | - |
| **Practical lessons** | 30 |
| **Individual work** | 60 |
| **Type of final control** | test control |

1. **DESCRIPTION OF THE DISCIPLINE (ABSTRACT)**

The discipline "Topical issues of intensive care and emergency care in pediatrics" is an optional component of the educational and professional training program and is studied by students during the 6th year of study. Practical classes include elements of interactive technologies and are carried out with the introduction of training in simulation scenarios according to the algorithms of basic (BLS basic life support) and extended (PALS pediatric advanced life support) life support (American Heart Association, European Resuscitation Council). Such competencies are a mandatory part of the training of both a general practitioner and a specialist, both a novice physician and an experienced specialist, and in the future such training will require regular repetition through constant updating of recommendations and to update previously acquired skills. Upon completion of the course, the student will be able to work in a team, be able to diagnose, provide emergency care and carry out intensive care of the most common life-threatening and urgent conditions in childhood with the acquisition of appropriate competencies.

The need to study the discipline is due to the fact that the causes of death in children differ from the causes of cardiac arrest in adults, the main cause of death in children and adolescents are external causes, including injuries, poisoning, traffic accidents and other accidents and severe respiratory and other somatic pathology, as a result of which life-threatening and urgent conditions largely cause respiratory and circulatory arrest in children (in the United States annually registered more than 20 thousand cases of cardiac arrest in children). Creating an effective structure for teaching pediatric basic and extended life support is based on the best achievements of international experience using modern evidence-based guidelines and teaching methods and is one of the most important reserves for reducing child mortality. Extended life support is provided by physicians at various levels of care and includes invasive and special techniques, including airway patency, heart rate analysis, defibrillator use, intravenous or intraosseous access for medication, and more

1. **POLICY OF THE SUBJECT**
   * ***List of normative documents:***

* Regulations on the organization of the educational process (<https://www.bsmu.edu.ua/wp-content/uploads/2020/03/polozhennya-pro-organizacziyu-osvitnogo-proczesu-u-vdnzu-bukovinskij-derzhavnij-medichnij-universitet.pdf>);
* Instructions for assessing the educational activities of BSMU students in the implementation of the European credit transfer system of the educational process (<https://www.bsmu.edu.ua/wp-content/uploads/2020/03/bdmu-instrukcziya-shhodo-oczinyuvannya-%D1%94kts-2014-3.pdf>);
* Regulations on the procedure for reworking missed and uncredited classes (<https://www.bsmu.edu.ua/wp-content/uploads/2019/12/reworks.pdf>);
* Regulations on the appeal of the results of the final control of knowledge of higher education (<https://www.bsmu.edu.ua/wp-content/uploads/2020/07/polozhennya-pro-apelyacziyu-rezultativ-pidsumkovogo-kontrolyu-znan.pdf>);
* Codex of Academic Integrity (<https://www.bsmu.edu.ua/wp-content/uploads/2019/12/kodeks_academic_faith.pdf>);
* Moral and ethical codex of students (<https://www.bsmu.edu.ua/wp-content/uploads/2019/12/ethics_code.docx>);
* Regulations on the prevention and detection of academic plagiarism (<https://www.bsmu.edu.ua/wp-content/uploads/2019/12/antiplagiat-1.pdf>);
* Regulations on the procedure and conditions for students to choose elective courses ([https://www.bsmu.edu.ua/wp- content/uploads/2020/04/nakaz\_polozhennyz\_vybirkovi\_dyscypliny 2020.pdf](https://www.bsmu.edu.ua/wp-%20content/uploads/2020/04/nakaz_polozhennyz_vybirkovi_dyscypliny%202020.pdf));
* Rules of internal labor regulations of the Higher State Educational Institution of Ukraine "Bucovynian State Medical University" (<https://www.bsmu.edu.ua/wp-content/uploads/2020/03/17.1-bdmu-kolektivnij-dogovir-dodatok.doc>).
  + ***Policy on adherence to the principles of academic integrity of higher education students:***

- independent performance of educational tasks of current and final controls without the use of external sources of information;

- cheating during control of knowledge is prohibited;

- independent performance of individual tasks and correct registration of references to sources of information in case of borrowing of ideas, statements, information.

* + ***Policy on adherence to the principles and norms of ethics and deontology by higher education students:***

- actions in professional and educational situations from the standpoint of academic integrity and professional ethics and deontology;

- compliance with the rules of internal regulations of the university, to be tolerant, friendly and balanced in communication with students and teachers, medical staff of health care institutions;

- awareness of the importance of examples of human behavior in accordance with the norms of academic integrity and medical ethics.

* + ***Attendance policy for higher education students:***

- attendance at all training sessions (lectures, practical (seminar) classes, final modular control) is mandatory for the purpose of current and final assessment of knowledge (except for respectable reasons).

***4.5. Deadline policy and completion of missed or uncredited classes by higher education students:***

- reworks of missed classes are held according to the schedule of missed or uncredited classes and consultations.

1. **PRECISIONS AND POST-REQUIREMENTS OF THE EDUCATIONAL DISCIPLINE (INTERDISCIPLINARY RELATIONS)**

|  |  |
| --- | --- |
| **List of disciplines,**  **on which the study of academic discipline is based** | **List of academic disciplines,**  **for which the basis is laid as a result of studying the discipline** |
| Phisiology |  |
| Pathofisiology |  |
| Pathology |  |
| Biochemistry |  |
| Normal anatomy |  |
| Propedeutic of pediatrics |  |
| Endocrinology |  |

1. **PURPOSE AND TASKS OF THE EDDUCATIONAL DISCIPLINE:**

**The purpose of studying** the discipline "Topical issues of intensive care and emergency care in pediatrics" is to prepare students in accordance with professional requirements for systematization and deepening of theoretical knowledge, improvement and mastery of practical skills on a comprehensive structured approach to assessing and stabilizing critically ill critically ill children. the level of readiness for independent work on emergency care and intensive care of the most common life-threatening and urgent conditions in childhood.

**Objectives:** to acquire knowledge and professional skills in diagnosis, emergency, emergency care and intensive care of the most common emergencies in children (respiratory disorders of various origins, respiratory arrest and palpitations, depression, convulsive syndrome, shock, etc.), based on knowledge of age anatomical physiological features of the child's body and skills of clinical, laboratory and instrumental examination of the child in accordance with the principles of teamwork and medical ethics and deontology.

1. **COMPETENCIES, THE FORMATION OF WHICH IS CONTRIBUTED BY THE DISCIPLINE:**

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

***7.2. General competencies:***

GP1 Ability to abstract thinking, analysis and synthesis, the ability to learn and be modernly trained.

GP2 Ability to apply knowledge in practical situations

GP3 Knowledge and understanding of the subject area and understanding of professional activity

GP4 Ability to make an informed decision; work in a team; interpersonal skills

***7.3. Professional (special) competencies:***

PC1 Skills of interviewing and clinical examination of the patient

PC2 Ability to determine the required list of laboratory and instrumental studies and evaluate their results

PC3 Ability to establish a preliminary and clinical diagnosis of the disease

PC5 Ability to determine the nature of nutrition in the treatment of diseases

PC6 Ability to determine the principles and nature of treatment of diseases

PC7 Ability to diagnose emergencies

PC8 Ability to determine the tactics of emergency medical care

PC9 Emergency care skills

PC11 Skills of medical manipulations

PC12 Ability to plan and conduct preventive and anti-epidemic measures for infectious diseases

PC13 Ability to determine the tactics of management of persons subject to dispensary supervision

PC14 Ability to keep medical records

1. **LEARNING OUTCOMES.**

As a result of studying the discipline, the applicant must:

**8.1. Know:**

- anatomical and physiological features of the functioning of various organs and systems of the child's body and features of metabolism;

- modern views on the etiology and pathogenesis, clinic, classification, methods of diagnosis, treatment, prevention and features of the most common critical and urgent conditions of childhood (shocks, convulsive syndrome, respiratory distress without and with airway obstruction, cardiac arrhythmias, respiratory arrest heartbeat, etc.);

- methods of providing emergency care to children and conducting intensive care at the pre-hospital and hospital stages of treatment according to the principles of basic and extended life support in pediatrics (PBLS, PALS);

- moral and deontological principles of a medical specialist and the principles of professional subordination in the clinic of children's diseases.

**8.2. Be able to**:

- collect information about the patient and evaluate information about the diagnosis, assess the general condition of the child and its severity, determine the need for resuscitation, conduct primary (ABC), secondary (ABCDE) and further examination and monitoring of children with emergencies; - to conduct a staged general examination, palpation, percussion and auscultation of organs and systems of the child's body and to assess the nature of pathological changes, to identify the leading symptoms and syndromes;

- to determine the syndrome and nosological diagnosis of the most common emergencies (shocks, convulsive syndrome, respiratory distress without and with airway obstruction, cardiac arrhythmias, respiratory arrest and palpitations, etc.) in pediatrics;

- to make a differential diagnosis and distinguish the clinical symptoms of the most common emergencies (shocks, convulsive syndrome, respiratory distress without and with airway obstruction, cardiac arrhythmias, respiratory arrest and palpitations, etc.) in children;

- to determine the tactics of providing and providing emergency and first aid and to conduct intensive care for children in the pre-hospital and hospital stages of treatment according to the principles of basic and extended life support in pediatrics (PBLS, PALS);

- to master practical skills and perform medical manipulations according to the algorithms of basic and advanced life support in pediatrics: external cardiac massage, restoration of patency of the upper respiratory tract, immediate artificial lung ventilation, cardiac defibrillation, first aid for pneumothorax and compression.

- to appoint laboratory and instrumental research depending on pathology and to estimate the revealed changes;

- use information and communication technologies.

**8.3. Demonstrate:** - determination and persistence in terms of tasks and responsibilities;

- ability to act socially responsibly and consciously on the basis of ethical considerations (motives); - mastery of moral and deontological principles of a medical specialist in pediatrics.

**9. INFORMATION SCOPE OF THE COURSE**

The study of the discipline is given 90 hours (3 ECTS credits), 1 module, which consists of two content modules.

**9.1. Specific objectives of the module (content module).**

**CONTENT MODULE 1.** ***Topical issues of emergency care and intensive care of respiratory infectious and non-infectious diseases of childhood.*** Specific goals of the content module: - assess the severity, identify different clinical variants and complications of the most common pediatric respiratory infectious and non-infectious nosologies,

- to plan the examination and management of a sick child and to interpret the results obtained in the most common emergencies due to respiratory diseases in children;

- to carry out differential diagnosis and make a preliminary clinical diagnosis in pediatric respiratory infectious and non-infectious nosologies;

- to determine the tactics of patient management in pediatric respiratory infectious and non-infectious nosologies;

- provide emergency and emergency care in emergencies caused by respiratory diseases in children.

**CONTENT MODULE 2. *Topical issues of emergency care and intensive care of the most common non-respiratory emergencies and critical conditions in pediatrics (shocks, convulsive syndrome, cardiac arrhythmias)*** Specific goals of the content module:

- to determine clinical variants of urgent and critical conditions in pediatrics, to plan examination of a sick child and to interpret the obtained results in urgent and critical conditions in pediatrics (shocks, convulsive syndrome, cardiac arrhythmias);

- to make a differential diagnosis and make a preliminary clinical diagnosis in urgent and critical conditions in pediatrics (shocks, convulsive syndrome, cardiac arrhythmias);

- to determine the tactics of the patient in urgent and critical conditions in children (shocks, convulsive syndrome, cardiac arrhythmias);

- provide emergency and first aid for urgent and critical conditions in children (shocks, convulsive syndrome, cardiac arrhythmias).

**9.2. Thematic structure of the module (content modules).**

***MODULE. Topical issues of intensive care and emergency care in pediatrics***

**Content module 1. *Topical issues of emergency care and intensive care of respiratory infectious and non-infectious diseases of childhood.***

**Topic 1.** *Acute stenotic laryngotracheitis, bronchiolitis, pneumonia, foreign body airways in childhood. Emergency aid.*

Respiratory distress syndrome and acute respiratory failure in children (tachy / bradypneal, swelling of the nasal wings, chest retraction, nodding of the head, paradoxical breathing, prolonged inhalation / exhalation, gasping for air, symmetry of the excursion of the chest, expiratory wheezing , stridor, vizing, crepitation, pallor / cyanosis, etc.). First aid (comfortable position, maintenance of patency, suction, installation of nasopharyngeal and oropharyngeal airways, oxygen therapy through respiratory circuits (nasal cannulas, masks, including non-reversible, etc.), auxiliary ventilation with a mask bag, tracheal intubation, vascular access therapy (albuterol, adrenaline) .Pharmacotherapy. Pressure and foreign bodies of the respiratory tract, first aid. Parenchymal lung diseases, respiratory dysfunction. Upper and lower respiratory tract obstruction, differential diagnosis. Acute stenotic laryngotracheitis, bronchiolitis, pneumonia. Emergency care and intensive care.

**Topic 2.** *Emergency care for respiratory diseases with bronchoobstruction (asthma attack, asthmatic condition) and anaphylaxis in children.*

Life-threatening conditions of the child (complete or severe airway obstruction, apnea / bradypnea, severe respiratory distress / respiratory function, poor perfusion, agitation / lack of reaction / depressed consciousness, lack of pulse, etc.). Additional studies in respiratory disorders (blood gases, hemoglobin concentration, pulse oximetry, expiratory CO2 monitoring, capnography, peak expiratory rate, OGK radiography, etc.). Emergency care for respiratory diseases and allergic conditions in children. Asthma attack, asthmatic condition. Anaphylaxis (laryngeal edema, Quincke's edema, anaphylactic shock). Emergency care and intensive care. Pharmacotherapy.

**Content module 2. *Topical issues of emergency care and intensive care of the most common non-respiratory emergency and critical conditions in pediatrics (shocks, convulsive syndrome, cardiac arrhythmias)***

**Topic 3.** *The concept of emergency (emergency), emergency care and intensive care in pediatrics. Convulsive syndrome, status epilepticus. Hypoglycemia, comatose states (ketoacidotic, hypoglycemic coma) in children. Emergency, emergency care and intensive care.*

The concept of emergency (emergency), emergency care and intensive care in pediatrics. Assessment of the general condition of a seriously and critically ill child (AVPU, Glasgow scale, rapid assessment of the general condition according to the pediatric triangle algorithm, "ABC" algorithm, initial assessment of the child's condition according to the "ABCDE" algorithm, assessment of vital functions, pulse oximetry; using the “SAMPLE” algorithm, complete physical examination) and the third order (laboratory, X-ray examinations, etc.) Diagnostic search and treatment according to the “assessment-classification-decision-action” algorithm. Convulsive syndrome, differential diagnosis in children of different ages. Status epilepticus. Hypoglycemia. Comatose states (ketoacidotic, hypoglycemic coma). Emergency, emergency care and intensive care. Pharmacotherapy.

**Topic 4.** *Septic shock, hypovolemic shock, prerenal acute renal failure in childhood. Emergency care and intensive care.*

Shocks in children, classification, general manifestations. Life-threatening conditions of the child (hemorrhage in combination with septic shock, acute abdomen with bloating, etc.). Assessment of circulation (blood circulation) in children of different ages (state of consciousness, skin color and temperature, heart rate and rhythm, blood pressure, peripheral and central pulse, capillary filling time, diuresis, etc.). Septic shock, classification, features of clinical manifestations. Meningococcemia. Hypovolemic shock. Prerenal acute renal failure. Emergency care and intensive care. Pharmacotherapy.

**Topic 5.** *Cardiogenic and obstructive shocks, critical heart rhythm disorders, defibrillation in children. Emergency, emergency care and intensive care.*

Life-threatening conditions of the child (lack of pulse, poor perfusion, hypotension, tachy / bradycardia, lack of reaction / depressed consciousness, etc.). Cardiogenic shock. Obstructive shock. Critical congenital heart disease. Acute heart failure. Shortness of breath-cyanotic crisis. Tachyarrhythmias with wide and narrow QRS complex. Asystole, pulseless electrical activity. Ventricular arrhythmias (tachycardia, fibrillation). Paroxysmal arrhythmias and conduction of the heart, subject to and not subject to defibrillation. Emergency, first aid and intensive care.

**10. STRUCTURE OF THE COURSE**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Names of content modules and topics | Number of hours | | | | |
| Total | including | | | |
| Classroom | | Independent  student work | Individual work |
| Lectures | Practical  occupation |
| 1 | 2 | 3 | 4 | 5 | 6 |
| **Content module 1. *Topical issues of emergency care and intensive care of respiratory infectious and non-infectious diseases of childhood.*** | | | | | |
| **Topic 1.** *Acute stenotic laryngotracheitis, bronchiolitis, pneumonia, foreign body airways in childhood. Emergency aid.*  . | 18 |  | 6 | 12 | Analysis of clinical cases, work with archival material of the clinic, preparation of literature review on clinical cases that have difficulties in differential diagnosis and / or treatment, presentation at the clinical medical and / or clinical-pathological conference. |
| **Topic 2.** *Emergency care for respiratory diseases with bronchoobstruction (asthma attack, asthmatic condition) and anaphylaxis in children.* | 18 |  | 6 | 12 |
| ***Together on the content module 1*** | 36 |  | 12 | 24 |  |
| **Content module 2. *Topical issues of emergency care and intensive care of the most common non-respiratory emergency and critical conditions in pediatrics (shocks, convulsive syndrome, cardiac arrhythmias)*** | | | | | |
| **Topic 3.** *The concept of emergency (emergency), emergency care and intensive care in pediatrics. Convulsive syndrome, status epilepticus. Hypoglycemia, comatose states (ketoacidotic, hypoglycemic coma) in children. Emergency, emergency care and intensive care.* | 16 |  | 6 | 10 | Analysis of clinical cases, work with archival material of the clinic, preparation of literature review on clinical cases that have difficulties in differential diagnosis and / or treatment, presentation at the clinical medical and / or clinical-pathological conference. |
| **Topic 4.** *Septic shock, hypovolemic shock, prerenal acute renal failure in childhood. Emergency care and intensive care.* | 16 |  | 6 | 10 |
| **Topic 5.** *Cardiogenic and obstructive shocks, critical heart rhythm disorders, defibrillation in children. Emergency, emergency care and intensive care.* | 16 |  | 6 | 10 |
| ***Together on the content module 5*** | 48 | - | 18 | 30 |  |
| **Individual work** | 6 | - | - | - |  |
| **ALL HOURS** | **90** |  | 30 | 54 |  |

**11. STRUCTURE OF LECTION – not provided.**

**12. THEMATICAL PLAN OF PRACTICAL CLASSES**

***MODULE. Topical issues of intensive care and emergency care in pediatrics***

|  |  |  |  |
| --- | --- | --- | --- |
| № | Topic | Hours | |
|  | **.** *Acute stenotic laryngotracheitis, bronchiolitis, pneumonia, foreign body airways in childhood. Emergency aid* | 6 |
|  | *Emergency care for respiratory diseases with bronchoobstruction (asthma attack, asthmatic condition) and anaphylaxis in children.* | 6 |
|  | *The concept of emergency (emergency), emergency care and intensive care in pediatrics. Convulsive syndrome, status epilepticus. Hypoglycemia, comatose states (ketoacidotic, hypoglycemic coma) in children. Emergency, emergency care and intensive care.* | 6 |
|  | *Septic shock, hypovolemic shock, prerenal acute renal failure in childhood. Emergency care and intensive care.* | 6 |
|  | *Cardiogenic and obstructive shocks, critical heart rhythm disorders, defibrillation in children. Emergency, emergency care and intensive care.* | 6 |
|  | Total | 30 | |

**13. THEMATICAL PLAN OF INDEPENDENT STUDENT`S WORK**

**Student's independent work** is one of the organizational forms of education, which is regulated by the working curriculum and is performed by the student independently outside the classroom. Possible types of independent work of students are preparation for practical classes with the use of guidelines developed by teachers of the department, elaboration of additional literature, creation of algorithms, structural-logical schemes, writing essays, annotations, reports for presentations in practical classes, duty in the clinic outside study time. The organization of independent work in the departments of the pediatric hospital should be provided by teachers of the department.

|  |  |  |
| --- | --- | --- |
| **№**  **п/п** | **Types of independent student work:** | Number of hours |
| 1 | Preparation for practical classes | 54 |
| 2 | Individual independent work of the student:  preparation of the role (patient, patient's parents, doctor, nurse) in conducting the simulation scenario. | 6 |
|  | **Hours in general** | **60** |

**14. LIST OF INDIVIDUAL TASKS**

**Individual tasks** - a form of organization of education in order to deepen, generalize and consolidate the knowledge that students receive in the learning process, as well as the application of this knowledge in practice, ie individual educational and research task.

As an individual task in the program offered: analysis of clinical cases, work with archival material of the clinic, preparation of literature review on clinical cases with difficulties in differential diagnosis and / or treatment, presentation at a clinical medical and / or clinical and pathological conference.

- preparation of the role (patient, patient's parents, doctor, nurse) in conducting the simulation scenario.

- analysis of clinical cases based on the processing of archival materials of the clinic,

- preparation of a literature review on clinical cases with difficulties in differential diagnosis and / or treatment,

- speech at a clinical medical and / or clinical and pathological conference,

- speech at a meeting of the scientific student group,

- participation in scientific conferences,

- publication of reports in the form of abstracts and articles in periodicals (journals, collections of scientific papers).

**15. LIST OF THEORETICAL ISSUES TO THE FINAL MODULAR CONTROL MODULE.**

***Topical issues of intensive care and emergency care in pediatrics***

1. Life-threatening conditions of the child: respiratory diseases.

2. Etiology and pathophysiology of respiratory arrest. Criteria for the diagnosis of respiratory arrest in childhood. Methods of restoring airway patency depending on age.

3. Respiratory distress syndrome in children, clinical manifestations and causes.

4. Acute respiratory failure in children. First aid, oxygen therapy, indications for tracheal intubation, pharmacotherapy.

5. Indentation and foreign bodies of the respiratory tract, first aid.

6. Parenchymal lung diseases.

7. Disorders of respiratory regulation, causes.

8. Obstruction of the upper and lower respiratory tract, differential diagnosis.

9. Acute stenotic laryngotracheitis, emergency care and intensive care.

10. Bronchiolitis, emergency care and intensive care.

11. Pneumonia. Emergency care and intensive care.

12. Additional research methods for respiratory disorders (blood gases, hemoglobin concentration, pulse oximetry, expiratory CO2 monitoring, capnography, peak expiratory rate, OGK radiography, etc.).

13. Differential diagnosis of respiratory distress for croup, pneumonia, obstructive bronchitis, bronchiolitis, bronchial asthma in children.

14. Emergency care for an attack of bronchial asthma.

15. Emergency care for asthmatic status.

16. Anaphylaxis (laryngeal edema, Quincke's edema, anaphylactic shock). Emergency care and intensive care. Pharmacotherapy.

17. The concept of emergency (emergency), emergency care and intensive care in pediatrics.

18. Assessment of the general condition of a seriously and critically ill child (AVPU, Glasgow scale).

19. Rapid assessment of the general condition by the algorithm of the pediatric triangle, "ABC" algorithm, the initial assessment of the child's condition by the algorithm "ABCDE".

20. Assessment of vital functions, pulse oximetry; second-order research (using the SAMPLE algorithm, complete physical examination).

21. Third-order research (laboratory, X-ray examinations, etc.).

22. Diagnostic search and treatment according to the algorithm "assessment-classification-decision-action".

23. Convulsive syndrome, differential diagnosis in children of different ages.

24. Seizures, status epilepticus. Emergency, emergency care and intensive care. Pharmacotherapy.

25. Hypoglycemia. Comatose states (ketoacidotic, hypoglycemic coma). Emergency, emergency care and intensive care. Pharmacotherapy.

26. Shocks in children, classification, general manifestations.

27. Assessment of circulation (blood circulation) in children of different ages (state of consciousness, skin color and temperature, heart rate and rhythm, blood pressure, peripheral and central pulse, capillary filling time, diuresis, etc.).

28. Septic shock, classification, features of clinical manifestations. Meningococcemia. Emergency care and intensive care. Pharmacotherapy.

29. Hypovolemic shock. Prerenal acute renal failure. Emergency care and intensive care. Pharmacotherapy.

30. Life-threatening conditions of the child (lack of pulse, poor perfusion, hypotension, tachy / bradycardia, lack of reaction / depressed consciousness, etc.).

31. Cardiogenic shock. Obstructive shock. Critical congenital heart disease. Emergency care and intensive care.

32. Acute heart failure. Emergency care and intensive care.

33. Shortness of breath-cyanotic crisis. Emergency care and intensive care.

34. Features of CPR depending on the age of the patient 1 and 2 resuscitators.

35. Etiology and pathophysiology of circulatory arrest. Criteria for the diagnosis of circulatory arrest in childhood.

36. Basic cardiopulmonary resuscitation. Restoration of blood circulation. Ensuring airway patency.

37. Tachyarrhythmias with wide and narrow QRS complex. Asystole, pulseless electrical activity. Ventricular arrhythmias (tachycardia, fibrillation). Paroxysmal arrhythmias and conduction of the heart, subject to and not subject to defibrillation. Emergency, emergency care and intensive care. Pharmacotherapy.

38. Extended cardiopulmonary resuscitation. Maintenance of airway patency. Artificial lung ventilation. Ensuring adequate blood circulation with extended CPR. Providing vascular access during cardiopulmonary resuscitation. Drugs used in advanced cardiopulmonary resuscitation.

39. Monitoring the effectiveness of resuscitation measures. Termination of cardiopulmonary resuscitation. Criteria.

40. Equipment needed for cardiopulmonary resuscitation. Cardiac defibrillation.

**16. LIST OF PRACTICAL TASKS AND WORKS FOR THE FINAL MODULAR CONTROL** - final modular control in the discipline is not provided.

**17. METHODS AND FORMS OF CONTROL**

Forms of control and assessment system are carried out in accordance with the requirements of the discipline program and instructions on the system of assessment of students' learning activities in the credit-module system of organization of the educational process, approved by the Ministry of Health of Ukraine (2005).

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 program in the discipline.

The maximum number of points assigned to students when mastering each module (credit) - 200, including for current educational activities - 120 points (60%), according to the results of the final module control - 80 points (40%).

Current control is carried out at each practical lesson in accordance with the specific objectives of each topic. When evaluating students' learning activities, it is necessary to give preference to standardized methods of control: testing, structured written work, structured according to the procedure of control of practical skills in conditions close to real ones.

Assessment of independent work of students in preparation for classroom practical classes is carried out during the current control of the topic in the relevant classroom.

The final module control is carried out upon completion of the study of all topics of the module at the last control lesson from the module.

Students who have completed all types of work provided by the curriculum, and during the study of the module scored the number of points, not less than the minimum, are allowed to the final control.

The form of the final module control is standardized and includes control of theoretical (test control) and practical training (demonstration of student skills at the bedside of a sick child, solving structured situational problems, performing manipulations).

The final test control includes 120 test tasks. The maximum number of points is 30 (0.25 points for 1 correct answer). The final test control is carried out according to a separate schedule approved by the vice-rector for scientific and pedagogical work. The results of the test control are evaluated positively if the student gave at least 75% of the correct answers.

Students perform practical skills at the patient's bedside (assessment of the general condition of the sick child, analysis of anamnesis data, objective examination and determination of clinical changes in organs and systems, justification of previous diagnosis, treatment, emergency measures, etc.). The maximum number of points is 30.

Solving a complex structured situational problem, which includes the interpretation of laboratory and instrumental research data, substantiation of clinical diagnosis, determination of therapeutic tactics, appointment of treatment or emergency care. The maximum number of points - 10. Performing one of the list of manipulations - 10 points.

The maximum number of points of the final module control is equal to 80. The final module control is considered credited if the student has scored at least 50 points.

**18. EVALUATION OF THE LEVEL OF STUDENT TRAINING IN THE DISCIPLINE**

System for converting the traditional score system into points:

The traditional grade "5" corresponds to the maximum number of points that a student can receive when studying the topic of practical training. Scores "4" and "3" are in points, respectively, 80% and 60% of the maximum score in points.

The maximum number of points that a student can score when studying the module is 120. It is the result of multiplying the number of points corresponding to a grade of "5" by the number of topics in the module with the addition of points for individual independent work.

The minimum number of points that a student can score when studying the module is calculated by multiplying the number of points corresponding to the grade "3" by the number of topics in the module.

Points for individual work are added to the sum of points earned by the student for the current educational activity.

*Criteria for assessing the educational activities of students during the study of module 4 "Pediatrics".*

*Criteria for assessing current learning activities*

Practical classes during the study of the module "Pediatrics" are structured and provide a comprehensive assessment in points of all types of educational activities (learning tasks), which students perform during the practical lesson:

1) At the initial stage, a test control of the student's knowledge is carried out. The results of the test control are evaluated positively if the student gave at least 70% of the correct answers. With fewer correct answers, the student does not receive points. In the overall assessment of current learning activities, this stage is 25% of the assessment while working in the classroom, ie 2 points.

2) At the main stage of the practical lesson the practical work of students at the bedside of a sick child to determine clinical variants and complications of the most common childhood diseases, determine the tactics of the patient, plan examination of the sick child and interpret the results, differential diagnosis and preliminary clinical diagnosis, maintaining medical records, providing emergency care for major emergencies in the pediatric clinic, as well as solving situational problems, which include practical skills in assessing the data of laboratory and instrumental studies, algorithms for providing emergency care, testing manipulations on models.

In the general assessment of current educational activity, this stage is 50% of the assessment of work during the practical lesson. The maximum score is 4 points.

3) At the final stage of the practical lesson control is carried out through the solution of a structured clinical problem on the topic of the lesson, including emergencies, which allows to assess the degree of achievement of the educational goal. In the overall assessment of current educational activities, this stage is 25% (written answer to 2 questions of the problem with a score of 1 point each).

*Discipline assessment:*

Assessment in the discipline "Pediatrics with Pediatric Infectious Diseases" is given only to students who have passed six modules in the discipline.

The grade for the discipline is set as the average of the grades for 6 modules, on which the discipline is structured.

Incentive points by the decision of the Academic Council of the University may be added to the number of points in the discipline to students who have scientific publications or won prizes for participation in the Olympiad in the discipline among higher medical educational institutions of Ukraine, etc.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Module number number of study hours / number of credits ECTS | Number of content modules, their numbers | Number of practical classes | Conversion into scores of traditional grades | | | | | Minimum number of points |
| Traditional estimates | | | | Points for individual tasks |
| **«5»** | **«4»** | **«3»** | **«2»** |
| Module 90/3,0 | 2  №№1-2 | 5 | 34 | 27 | 20 | 0 | 30 | **120** |

*Conversion of the number of points from the discipline into grades on the ECTS scale and four-point (traditional) scale.*

Discipline scores for students who have successfully completed the discipline program are converted by the department into a traditional four-point scale according to absolute criteria as shown in the table below.

|  |  |
| --- | --- |
| Score on a 200-point scale | Score on a four-point scale |
| From 180 to 200 points | «5» |
| From 150 to 179 points | «4» |
| From 149 to the minimum number of points that a student must score | «3» |
| Below the minimum number of points that a student must score | «2» |

Points from the discipline are independently converted into an ECTS scale in the deans' offices and a four-point scale at the department.

Students who study in one specialty, taking into account the number of points scored in the discipline are ranked on the ECTS scale as follows:

|  |  |
| --- | --- |
| ECTS assessment | Statistical indicator |
| А | The best 10% of students |
| В | The next 25% of students |
| С | The next 30% of students |
| D | The next 25% of students |
| Е | The remaining 10% are students |

Ranking on assignment of grades "A", "B", "C", "D", "E" is carried out for students of one course of one faculty who have successfully completed the study of the discipline.

Grades "FX, F" are given to students who have not enrolled in at least one module of the discipline after completing its study.

Students who receive grades "FX" and "F" ("2") are not included in the list of ranked students, even after re-taking the module. Such students automatically receive a score of "E" after re-assembly.

The grade "FX" is given to students who have scored the minimum number of points for the current academic activity, but who do not pass the final module control. This category of students has the right to rearrange the final module control. Reassembly of the final module control is allowed no more than twice.

Grade "F" is given to students who have attended all classes in the module, but did not score the minimum number of points for the current educational activity and are not admitted to the final module control. This category of students has the right to re-study the module.

N.B. Assessment of current educational activities, modular control and discipline in general is carried out in accordance with the "Instructions for assessing the educational activities of students of Bukovina State Medical University in the implementation of the European credit transfer system of educational process" (approved by the Academic Council of May 29, 2014, protocol № 9).

**19. RECOMMENDED LITERATURE**

1. Growth and development of the child / Nechytailo Yu.M., Nechytailo D. Yu, Buriak O.G. – Chernivtsi, 2012. – 145 p.
2. Manual of propedeutic pediatric / Nykytyuk S.O. et all. - Ternopil “Ukrmedkniga”, 2005.- 467 p.
3. Nelson textbook of pediatrics / R.E.Behrman, V.C.Vaughan. - W.B.Saunders.-2020.-1899 p.
4. A guide for physical examination and history talking / B.Bates. - Lippincott, 7th ed.-2019.-661 p.
5. Physical examination and health assessment / C.Jarvis. - W.B.Saunders.-2018.- 952 p.
6. Zitelli and Davis' Atlas of Pediatric Physical Diagnosis 7th Edition / Basil J. Zitelli, Sara C McIntire, Andrew J Nowalk. – Elsevier. – 2018. – 876p.
7. Neumar RW, Shuster M, Callaway CW, et al. Part 1: Executive Summary. 2015 American Heart Association Guidelines Update for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care. Circulation 2015;132:S315-367.
8. Travers AH, Rea TD, Bobrow BJ, Edelson DP, Berg RA, Sayre MR. Part 4: CPR overview: 2010 American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care. Circulation. 2010 Nov 2. 122(18 Suppl 3):S676-84. [Guideline]
9. William H. Resuscitation of Children. Tintinalli J et al (eds.). Tintinalli's Emergency Medicine: A Comprehensive Study. 7th. 2010. Chapter 15.

**Information resources:**

1. BSMU Repository "BSMU Intellectual Funds" - <http://dspace.bsmu.edu.ua:8080/xmlui>.
2. 2. List of electronic textbooks for independent work of students - <http://medlib.bsmu.edu.ua/informacijni-resursi/elektronni-knigi-na-cd-ta-dvd-nosiah>.
3. Electronic medical libraries – <http://medlib.bsmu.edu.ua/internet-resursi/elektronni-medicni-biblioteki>.

4. Materials for preparation for practical classes -

<http://moodle.bsmu.edu.ua/course/view.php?id=1541>.

**20. AUTHORS OF THE STUDENT`S GUIDE (SILABUS)**

1. *Nechitaylo Yuriy Mykolayovych* - Head of the Department of Pediatrics, Neonatology and Perinatal Medicine, Doctor of Medicine, Professor.

2. *Nechitaylo Dmytro Yuriyovych* - Associate Professor of the Department of Pediatrics, Neonatology and Perinatal Medicine, PhD, Associate Professor.