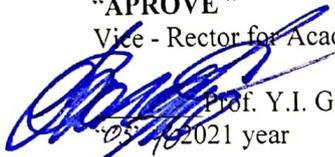


National Pirogov Memorial Medical University, Vinnytsya

“APPROVE”

Vice - Rector for Academic Affairs


Prof. Y.I. Guminskiy
“05/10/2021 year

“AGREED”

Head of the Department Pediatric №1

Prof. O.S. Yablon
“05/10/2021 year

SYLLABUS
of academic discipline
«Neonatology»

(integral part of the discipline «Pediatrics, including Pediatric Infectious Diseases, Neonatology »)

	222 Medicine
Educational level	the second (master`s) level
Educational programme	EPP Medicine, 2020
Academic year	2021-2022
Department	<i>Pediatric №1</i>
Lecturer (if lectures are given)	Ass.prof. Mazur Olena H., ass. prof. Pugach Marina M., as. Vlasenko D.Y.
Contact information	<i>pediatrics1@vnmu.edu.ua,</i> <i>108, Khmelnytske highway</i>
Syllabus compiler	Ass.prof. Mazur Olena H.

1. Status and structure of the discipline

Discipline status	Compulsory
Discipline code in EPP/ discipline place in EPP	CC 31 discipline of professional training
Course / semester	5th year (IX or X semester)
The amount of discipline (the total number of hours / number of credits ECTS)	45 hours /1,5 credits ECTS
Number of content modules	3 modules
The structure of the discipline	Lectures – 8 hours Practical classes - 26 hours Independent work - 11 hours
Language of study	English
Form of study	Full-time (or remote full-time by order)

2. Description of the discipline

Short annotation of the course, relevance.

The subject area of the discipline is Neonatology, the study of which is necessary for successful professional activity. The main focus of the program is the basic, most common diseases of the neonatal period. The program focuses on obtaining knowledge of the etiology, pathogenesis, classification, diagnostic criteria and principles of treatment of the main diseases of the neonatal period.

Prerequisites.

For the successful mastering of the course students needs knowledge gained on the study of the following disciplines of general training courses: normal anatomy and physiology, pathological physiology, microbiology, nursing and nursing practice, propedeutics of children diseases, obstetrics and gynecology, pharmacology, pediatrics.

The purpose of the course and its significance for professional activities.

The discipline aims to obtain basic professional knowledge and practical skills on common diseases of the neonatal period. The student must acquire the ability to collect medical history, conduct an objective examination of the newborn; establishment of the clinical diagnosis at the most widespread diseases of newborns, drawing up a plan of additional investigations of the patient; interpretation of laboratory and instrumental research results; conducting a differential diagnosis of the most common diseases of the neonatal period, determining treatment tactics and prevention methods; providing medical care for the most frequent emergency conditions in newborns.

Postrequisites

In the process of studying the discipline, the knowledge necessary for the successful mastering of the disciplines of further professional training, such as pediatrics, pediatric surgery, pediatric infectious diseases, genetics of other clinical disciplines are obtained, which involves the integration of teaching with these disciplines and apply knowledge, skills and abilities further training and professional activities.

3. Learning outcomes. After successful study of the discipline the applicant will be able to:

1. Know: clinical, laboratory and instrumental criteria for diagnosis, treatment, prevention of diseases specific to the neonatal period
2. Be able to: diagnose children based on a set of survey data
3. Demonstrate: knowledge and practical skills in the discipline
4. Master the skills, methods of examination of newborns
5. Independently decide: creating a plan for examination and treatment of newborns with manifestations of the most common diseases of the neonatal period.
6. Provide aid in emergencies of newborns.

4. Content and logistic of the discipline

Module 2 (Neonatology)	IX or X semester 45 hours/1,5 credits	Practical classes №№ 1-11 (Practical classes №12-13– Final control) Lectures №№ 1-4
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The course includes 11 topics, which are divided into 3 thematic modules.

Thematic module №7. The healthy newborn babies. Preterm infants.

Topic 1. The healthy newborn babies. Clinical examination of newborn baby. Transitory conditions.

Topic 2. The healthy newborn. Care for healthy newborn baby. Feeding a healthy newborn baby.

Topic 3. Preterm infants. Morphological and functional features of preterm newborns. Emergency conditions.

Topic 4. Preterm infants. Organization of nursing and feeding of preterm infants.

Thematic module №8. The most common non-infectious diseases.

Topic 5. Asphyxia of the newborn.

Topic 6. Asphyxia of the newborn. Primary resuscitation and post reanimation care.

Topic 7. Birth injury. Neurological disorders of newborn.

Topic 8. Respiratory disorders. Respiratory distress syndrome.

Topic 9. Hemorrhagic disorders of newborn. Hemorrhagic disease.

Topic 10. Hemolytic disease of the newborn. Neonatal jaundice.

Thematic module №9 Perinatal infections.

Topic 11. Perinatal infections.

The topics of the lecture course reveal the problematic issues of the relevant sections of neonatology. The lectures on neonatology highlights the problematic issues of neonatal asphyxia and primary resuscitation, respiratory diseases, neonatal jaundice, perinatal infections and neonatal sepsis. Diagnostic criteria, research methods, differential diagnosis, treatment, prevention are considered in accordance with modern advances and clinical guidelines in medicine.

The practical classes in neonatology study the common pathologies of newborn: basics of physiology and pathology of full-term and premature babies, features of breastfeeding and nursing, principles of intensive and emergency care, principles of modern perinatal technologies and follow-up monitoring of infants.

Practical classes according to the method of their organization are clinical and include:

- 1) curation of newborns with various pathologies (if appropriate patients are absent in the clinic - analysis of clinical cases, situational tasks): analysis of history, physical examination;
- 2) justification of the preliminary diagnosis;
- 3) drawing up a plan of examination of the patient and interpretation of data of laboratory and instrumental research methods;
- 4) conducting a differential diagnosis and substantiation of the clinical diagnosis;
- 5) calculation of feeding;
- 6) providing recommendations after discharge from the hospital for further follow-up, breastfeeding, vaccination, prevention of the long-term complication;
- 7) training and improvement of practical skills with the use of modern simulation training technologies (work with neonatal mannequins of the stimulation center).

The form of study is full-time, but within the timeframe set by law in the current situation with COVID-19, the form of study can be adapted to distance conditions: testing, solving situational clinical

cases, discussing the procedure and techniques of practical skills on the Microsoft Teams platform or Google Meet.

The student's independent work provides preparation for practical classes and differential test on the basis of improvement of skills of physical examination of newborns, mastering skills in interpretation of laboratory results researches at the corresponding pathologies of the neonatal period, mastering of skills of interpretation of results of instrumental researches at the corresponding pathologies of the neonatal period, interpretation of the results of the screening tests of the newborns and assessment of indicators of physical development in accordance with the percentile graphs, writing of case history of the disease. Control of mastering the topics of independent extracurricular work is carried out at practical classes and final control of the discipline.

Thematic plans of lectures, calendar plans of practical classes, thematic plan of independent extracurricular work, volume and directions of individual work are published on the website of the department.

The route for obtaining materials: Department pediatric №1 / for students / Full-time education / Medicine / 5 course / Educational materials / or through the link <https://www.vnmua.edu.ua/> department pediatric №1. Access to the materials is carried out through the student's corporate account s000XXX@vnmua.edu.ua.

5. Forms and methods of monitoring academic performance

Current control in practical studies	Methods: oral or written survey, testing, electronic survey, solving situational problems and clinical cases, control of knowledge and practical skills during working with a thematic patient in a specialized department or stimulation class.
Final control (Differential Credit Control)	Methods: Differential Credit Control in the last practical lesson according to the schedule include the defense case history of the disease, electronic testing, oral questioning on the clinical situation task according to the Regulation of the Academic process in National Pirogov Memorial Medical University, Vinnytsya (link https://www.vnmua.edu.ua/General information)
Learning success diagnostic tools	Theoretical questions, tests, clinical situational tasks, laboratory and instrumental research results, practical skills demonstration,

6. Assessment criteria

Knowledge assessment is carried out in accordance with the Regulations of the Academic process in National Pirogov Memorial Medical University, Vinnytsya (link <https://www.vnmua.edu.ua/General information>)

Continuous assessment	On a four point system of traditional assessments: 5 «excellent», 4 «good», 3 «satisfactory», 2 «unsatisfactory»
Final control of the discipline	Sum of points for testing (6-10 points) and oral questioning (44-70 points) Differential Credit Control grade: 71-80 points - "excellent" 61-70 points - "good" 50-60 points - "satisfactory" Less than 50 points - "unsatisfactory" / did not pass
Discipline assessments:	Current academic assessment - from 72 to 120 points (conversion of the average traditional assessment of

	practical class on a 120-point scale): 60% of the grade for the discipline Final control - from 50 to 80 points: 40% of the grade for the discipline Individual work - max 12 points From 122 to 200 points in total.
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Discipline Score Scale: National and ECTS

The sum of grades for all types of educational activities	Score ECTS	Score on a national scale	
		For exam, course project (work), practice	for credit test
180-200	A	excellent	credited
170-179,9	B	good	
160-169,9	C		
141-159,9	D	satisfactory	
122-140,99	E	satisfactory	
0-121,99	FX	unsatisfactory with the possibility of reassembly	is not credited with the possibility of reassembling
	F	unsatisfactory with a mandatory reexamination of discipline	is not credited with mandatory reexamination of discipline

Criteria for student knowledge assessment

Assessment of oral / written response during the current assessment

The grade **"Excellent"** is given to student who answered all the questions correctly according to the topic of the lesson. The answers are deep, clearly and specific. The student must know the features of clinical manifestations of pathology of the neonatal period, the general principles of diagnosis of diseases in newborns, the principles of their treatment.

The grade **"Good"** is given to a student who correctly answered 75% of the questions and showed a fairly substantial knowledge of the issues of the main sections of the curriculum. The student must know the features of clinical manifestations of pathology of the neonatal period, the general principles diagnosis of diseases in newborns, the principles of their treatment.

A grade of **"Satisfactory"** is given to a student who answered 50% of the questions correctly. The answers are incomplete, mostly limited to a simple list of components, features without the slightest detail. The student must have a minimum of theoretical and practical knowledge of neonatology.

The grade **"Unsatisfactory"** is given to a student who does not give any correct answer or gave only an approximate answer to two questions. The student does not have the required minimum knowledge of neonatology.

Assessment of practical skills during the current assessment

The grade **"Excellent"** is given to a student who knows the course and sequence of the patient's physical examination, demonstrates the correct implementation of the necessary practical skills and correctly and clearly formulates generalizations and conclusions.

A grade of **"Good"** is given to a student who admits inaccuracies in the performance of physical examination, but is able to identify mistakes and can demonstrate the implementation of practical skills in general.

Assessment of **"Satisfactory"** is given to a student who knows the basics of the practical task, but has difficulty at performing physical examination, cannot demonstrate the correct sequence of practical skills, cannot fully interpret the results of research.

The grade **"Unsatisfactory"** is given to a student who cannot demonstrate the performance of practical skills, experiences significant difficulties in performing physical examination, violates the procedure for performing practical work.

Assessment of the clinical task or an emergency condition during the current assessment

A grade of **"Excellent"** is given to a student who has correctly identified the main syndromes or an emergency condition and has correctly established a clinical diagnosis. The answers regarding diagnostics, differential diagnostics are deep, meaningful and specific. The student correctly, in full made a plan of examination and treatment, demonstrated clear knowledge about the mode of care, calculation of breastfeeding, emergency care, dosage and frequency of administration of drugs in newborns.

A grade of **"Good"** is given to a student who has correctly identified the leading syndromes or an emergency condition and has correctly established a clinical diagnosis. When conducting diagnostics, differential diagnosis, appointment of a plan of examination, treatment and assistance in emergencies, the student has the material, but allows inaccuracies.

A grade of **"Satisfactory"** is given for work with a clinical task or an emergency task, if the answers are incomplete, there are difficulties with diagnosis, differential diagnosis, errors in treatment and emergency care. The student must have a minimum of theoretical and practical knowledge of neonatology.

The grade **"Unsatisfactory"** is given for work in which the student did not give any correct answer. The student does not have the required minimum knowledge of neonatology.

Evaluation of testing during the current assessment

The grade **"Excellent"** is given to the student who at carrying out test control is allowed no more than 10% of incorrect answers (volume of correct answers 90-100%).

A grade of **"Good"** is given to a student who makes no more than 30% of mistakes during the test (volume of correct answers 70-80%).

The grade **"Satisfactory"** is given to a student who makes mistakes in no more than 40% of test tasks (volume of correct answers 60%).

The grade of **"Unsatisfactory"** is given to a student who correctly solves less than 60% of the test.

Evaluation of the defense of medical history during the final control

The grade **"Excellent"** is given to the student who clearly substantiates the patient's diagnosis taking into account complaints, anamnesis data, results of objective examination, makes a differential diagnosis with different diseases, demonstrates knowledge of examination and treatment of the patient, indicates groups of drugs, doses, route and frequency of administration. clear recommendations after the patient's discharge for further observation.

A grade of **"Good"** is given to a student who admits inaccuracies in substantiating the patient's diagnosis, but is quickly corrected with clarifying questions, makes a differential diagnosis with different, but makes minimal mistakes, demonstrates knowledge of examination and treatment of the patient, indicates groups of drugs, doses, path and frequency of administration, provides recommendations after discharge of the patient for further observation.

Assessment of **"Satisfactory"** is given to a student who substantiates the diagnosis in full, without taking into account all criteria, makes significant errors in the differential diagnosis, does not have the principles of examination and treatment of the patient, makes mistakes in calculating doses, routes, frequency of administration, no can provide recommendations after discharge.

The grade **"Unsatisfactory"** is given to a student who does not provide an answer to any question concerning the patient's medical history (diagnosis, justification, differential diagnosis, examination, treatment, recommendations after discharge).

Assessment of the oral/written response during the final control (Differential Credit Test)

The grade **"Excellent"** is given to the student competently and in a logical sequence provides answers to the questions of the differential exam ticket. The answers are deep, meaningful and specific. The student must know the features of clinical manifestations of neonatal diseases, general principles of diagnosis and treatment.

The grade **"Good"** is given to a student who has a good knowledge of theoretical material and in a logical sequence provides answers to the questions of the examination ticket (75% of all main sections of the curriculum). The student must know the features of clinical manifestations of neonatal diseases, general principles of diagnosis, treatment and prevention.

A grade of **"Satisfactory"** is given to a student who demonstrates knowledge of basic concepts and definitions when answering of differential exam ticket (50% of all questions). The answers are incomplete, mostly limited to a simple list of components, features, without the slightest detail. The student must have a minimum of theoretical and practical knowledge about the diseases of the neonatal period.

The grade **"Unsatisfactory"** is given to a student who does not know the answer to one of the questions of the differential exam ticket, makes serious mistakes when answering questions on neonatology. The student does not have the required minimum knowledge of newborn diseases.

Evaluation of testing during the final control (Differential Credit Test)

The grade **"Excellent"** is given to the student who at carrying out test control is allowed no more than 10% of incorrect answers (volume of correct answers 90-100%).

A grade of **"Good"** is given to a student who makes no more than 30% of mistakes during the test (volume of correct answers 70-80%).

The grade **"Satisfactory"** is given to a student who makes mistakes in no more than 40% of test (volume of correct answers 60%).

The grade of **"Unsatisfactory"** is given to a student who correctly solves less than 60% of the test.

The calculation of individual points is carried out on the basis of the Regulation of the Academic process in National Pirogov Memorial Medical University, Vinnytsya, 2020 (link <https://www.vnmu.edu.ua/General> information).

12 points - added to the assessment of the discipline for a student who won a prize at the interuniversity competitions in the discipline or a prize at the Ukrainian competition of student research reports or a prize at the interuniversity / international scientific conference with the published work;

11 points - are added to the assessment of the discipline for a student who won the first prize at the intra-university Olympiad in the discipline or the first place at the student scientific conference with the published work, or participated in the Ukrainian competition of student research papers;

10 points - are added to the assessment of the discipline for a student who won a prize (II-III) at the intra-university Olympiad in the discipline or at the student scientific conference with the availability of printed work; or for participation (without a prize place) in interuniversity competitions in the discipline or a prize place in an interuniversity / international scientific conference with the availability of published work.

9 points - are added to the assessment of the discipline for a student who participated (without a prize) in the intra-university Olympiad in the discipline or student scientific conference with the presence of published work

8 points - are added to the assessment of the discipline for a student who actively participated in the student scientific group, published a paper with results of scientific and practical research, but did not personally participate in the student scientific conference, prepared a poster report

7. Policy of discipline / course

The student has the right to receive high-quality educational services, access to contemporary scientific and educational information, qualified tutoring during the study of discipline and mastering practical skills. The policy of the department during the providing of educational services is a student-centered, based on normative documents of the Ministry of Education and the Ministry of Health of Ukraine, the Statute of the University and the Procedure for the Providing of Educational Services regulated by the main principles of the organization of the educational process in National Pirogov Memorial Medical University, Vinnytsya and the principles of academic integrity (link <https://www.vnmu.edu.ua/General> information).

Adherence to the rules of National Pirogov Memorial Medical University, Vinnytsya, safety techniques in practical classes. Providing information about the rules of conduct and safety is carried out by the teacher at the first practical lesson.

Requirements for preparation for practical classes.

A student must be prepared for a practical lesson and come on time, without delay. A student who is more than 15 minutes late is not allowed to the practical class and must work it in the prescribed manner.

In practical classes, the student must be dressed in a medical uniform (medical gown, hat, change of shoes) and have a phonendoscope. Students who do not have a work uniform are not allowed to practice.

The student must follow the rules of safety in hospital units and at the classroom of department.

When discussing theoretical issues, students should demonstrate tolerance, courtesy and respect for their colleagues and the teacher; in the practical part of the lesson in the hospital to keep the principles and rules of ethics and deontology.

Usage of mobile phones and other electronic devices. The use of mobile phones and other electronic devices in the classroom is allowed only during electronic testing.

Academic integrity. When studying the discipline, the student must be guided by the Code of Academic Integrity and Corporate Ethics of National Pirogov Memorial Medical University, Vinnytsya (link : <https://www.vnmu.edu.ua/General> information)/ Code of Academic Integrity). In case of violation of the norms of academic integrity during the current and final controls student receives a grade of "2" and must work it out to his teacher in the prescribed manner within two weeks after receiving an unsatisfactory assessment).

Missed classes. Missed classes are working out in the manner prescribed by Regulations of the Academic process in National Pirogov Memorial Medical University, Vinnytsya (link <https://www.vnmu.edu.ua/General> information) with teacher of the academic group during the working day or with teacher on duty according to the working of schedule (published on the website of the department <https://www.vnmu.edu.ua/Department of Pediatrics N 1>). Working of missed lesson, the

student must take a test and answer questions in writing according to the topic of the lesson. Assimilation of the missed topic of the lecture is checked during the final control.

The procedure for admission to the discipline final control is given in the Regulation of the Academic process in National Pirogov Memorial Medical University, Vinnytsya (link <https://www.vnmu.edu.ua/General> information). Students who do not have missed practical classes and lectures and received an average traditional grade of at least "3" are allowed to final control.

Additional points. Individual points in the discipline that student can receive for individual work, is determined by the results of his individual work according to Regulation of the Academic process in National Pirogov Memorial Medical University, Vinnytsya (link <https://www.vnmu.edu.ua/General> information) and policy of the course.

Conflict resolution. In case of misunderstandings and complaints to the teacher because of the quality of educational services, knowledge assessment and other conflict situations, student should submit his / her claims to the teacher. If the issue is not resolved, the student has a right to apply to the head of the department according to Complaints Consideration Procedure (link <https://www.vnmu.edu.ua/General> information/Basic documents).

Politics in terms of remote learning. Distance learning regulated by the Regulations of the elements of remote learning in National Pirogov Memorial Medical University, Vinnytsya (link <https://www.vnmu.edu.ua/General> information/Basic documents). The main training platforms for studying are Microsoft Team and Google Meets. Lecture presentations with audio / video accompaniment is published on the website of the department (<https://www.vnmu.edu.ua/> Department of Pediatrics N1/ Student or <https://www.vnmu.edu.ua/> Department of Pediatrics N 1/ News).

Practical classes are conducted online in video mode with the camera on and mandatory video recording of the lesson.

The procedure for conducting practical classes and lectures, work of missed classes and consultations during distance learning is published on the website of the department (<https://www.vnmu.edu.ua/> Department of Pediatrics N1/ Student or <https://www.vnmu.edu.ua/> Department of Pediatrics № 1/ News).

Feedback from the teacher is via chat in Microsoft Teams or e-mail, or through messengers (Viber, Telegram) of the teacher's choice during working hours.

Educational resources.

Educational and methodological support of the discipline is published on the website of the department (<https://www.vnmu.edu.ua/> Department of Pediatrics N 1/ To students).

Basic reading:

1. Nelson textbook of Pediatrics 21th Edition by Robert M. Kliegman, Joseph W. St Geme, Nathan J. Blum, Samir S. Shah, Robert C. Tasker, Karen M. Wilson, Richard E. Behrman. ELSEVIER, 2019. – 15739 p.
2. Tiazhka O. Pediatrics, 3th ed. / Tiazhka O., Pochinok T., Antoshkina A. et al.// Nova Knyha Pablishers.- 2018.- 584p.

Recommended reading:

1. A. Fanaroff Care of the high-risk neonate 7th Edition / A. Fanaroff // Elsevier-Saunders, 2019. – 626 p.
2. Gardner S. Handbook of Neonatal Intensive Care/ S. Gardner, A. Merenstein// Elsiver; 8th Edition. – 2015. – 1008P.
3. Guidelines for Feeding Very Low Birth Weight Infants / Sourabh D., Balpreet S., Lorraine Ch. [et al.] // Nutrients. – 2015. – Vol.7. – P. 423 – 442.
4. Fanaroff A. Neonatal-Perinatal Medicine/ A. Fanaroff, R.J. Martin// Elsiver; 10th Edition. – 2015. – 2024P.

5. Part 7: neonatal resuscitation: 2015 International Consensus on Cardiopulmonary Resuscitation and Emergency Cardiovascular Care Science With Treatment Recommendations / J. Wyllie, J.M. Perlman, J. Kattwinkel [et al.] // *Circulation*. – 2015. – V. 132(suppl 1). – P.204–241.
6. Part 13: neonatal resuscitation: 2015 American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care / M.H. Wyckoff, K. Aziz, J. Kattwinkel [et al.] // *Circulation*. – 2015. – V. 132(suppl 1). – P.543–560.
7. Polin R.A. *Fetal and Neonatal Secrets*/R.A. Polin. Alan R. Spitzer// Mosby, 3th Edition. – 2015. – 576 P.
8. Yablon O., Bykovska O., Savrun T. *Neonatology. Textbook*. – Vinnytsia, 2018. – 164p.

Electronic resources:

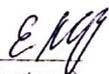
1. National Pirogov Memorial Medical University, Vinnytsya: <http://vnmnu.edu.ua>
2. Library of National Pirogov Memorial Medical University, Vinnytsya: <http://library.vnmnu.edu.ua>
3. Ministry of Health of Ukraine <https://moz.gov.ua/>
4. World Health Organization <https://www.who.int/ru/home#>
5. Medscape Pediatrics: <https://www.medscape.com/pediatrics>
6. Pubmed portal: <https://pubmed.ncbi.nlm.nih.gov/>
7. UpToDate: <https://www.uptodate.com/home>
8. *British Medical Journal Learning*: <https://new-learning.bmj.com/>

The timetable and distribution of groups with assigned teachers are published on the web page of the department (<https://www.vnmnu.edu.ua> / Department of Pediatrics N 1/ To students).

Questions to the intermediate and final control (Differential Credit Test) of the discipline are published on the web page of the department (<https://www.vnmnu.edu.ua> / Department of Pediatrics N 1/ To students).

The syllabus of the discipline "Neonatology" was discussed and approved at the meeting of the department Pediatric №1 (record №7, dated "04" 10 2021).

Responsible for the academic discipline "Neonatology"


(signature)

Ass-prof. Mazur Olena H.

Head of the department


(signature)

Prof.Yablon Olga S.