

MINISTRY OF HEALTH OF UKRAINE  
ODESSA NATIONAL MEDICAL UNIVERSITY

Department of Pediatrics No. 1



APPROVE

Acting pro-rector for scientific and educational work

Prof.

Svitlana KOTIUZHYNKA

09 2022 p

**WORKING PROGRAM OF ELECTIVE DISCIPLINE**  
**"Vaccination in children and adults"**

**Higher education level: second (master's)**  
**Knowledge Area: 22 "Health Care"**  
**Specialty: 222 "Medicine"**  
**Educational and professional program: Medicine**

The working program is compiled on the basis of the educational and professional program "Medicine", the training of specialists of the second (master's) level of higher education in the specialty 222 "Medicine" of the field of knowledge 22 "Health care", approved by the Academic Council of ONMedU, dated Jun 23, 2022, protocol No. 9.

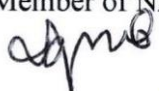
Developers: head of the department, corresponding member of the National Academy of Sciences of Ukraine, doctor of medicine, prof. Aryaev M.L., head of the department, Doctor of Medicine, associate professor Kaplina L.E., PhD, assoc. of professor Senkivska L.I., assistants of the department Selimkhanova D.S., Pavlova V.V.

The working program was approved at the meeting of the Department of Pediatrics No. 1

Protocol No. 21 dated June 29, 2022

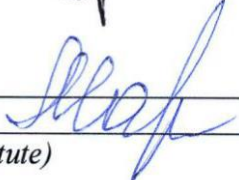
Head of the department, Corresponding Member of NAMS of Ukraine,

DSc, Prof.



Mykola ARYAYEV

Agreed with the guarantor of the  
EPP



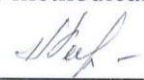
(Valeria MARICHEREDA)

(Name SURNAME)

The program was approved at the meeting of the subject cycle commission for pediatric disciplines of ONMedU

Protocol No. 6 dated "30" 06 2022 y.

Head of the subject cycle methodical commission for pediatric disciplines, professor



(Natalia KOTOVA)

(signature)

(Name SURNAME)

Reviewed and approved at the meeting of the Department of Pediatrics No. 1

Protocol No. dated " " 20 y.

Head of the department (Mykola ARYAYEV)

(signature)

(Name SURNAME)

Reviewed and approved at the meeting of the Department of Pediatrics No. 1

Protocol No. dated " " 20 y.

Head of the department (Mykola ARYAYEV)

(signature)

(Name SURNAME)

### Description of the optional academic discipline:

1. Name of the indicators Field of knowledge	Field of knowledge, specialty, specialization, level of higher education	Characteristics of the academic discipline
The total number of:  Credits: 1.5  Hours: 45  Content modules: 1	Branch of knowledge 22 "Health care"	<i>Full-time education</i> <i>Elective discipline</i>
	Specialty 222 "Medicine"	<i>Year of training: 6</i>
		<i>Semester XI - XII</i>
		<i>Lectures (0 hours)</i>
	Specialization Doctor	<i>Seminars (16 hours)</i>
		<i>Practical (0 hours)</i>
		<i>Laboratory (0 hours)</i>
	Level of higher education second (master's)	<i>Independent work (29 hours)</i>
		<i>including individual tasks (0 hours)</i>
		<i>Form of final control (according to the curriculum) – test.</i>

#### 2. The purpose and tasks of the educational discipline

Purpose: The applicant's acquisition of the higher education of additional knowledge and mastery of professional competences and skills of vaccination in children and adults by a family doctor based on the competences obtained during the study of previous disciplines.

Task:

1. Formation of skills and communication skills with the child and his parents.
2. Mastering the ability to determine the tactics of prevention of infectious diseases in children.

**The process of studying the discipline is aimed at forming elements of the following competencies:**

#### **General (GC):**

- GC1 – Ability to abstract thinking, analysis and synthesis.
- GC2 – Ability to learn and master modern knowledge.
- GC3 – Ability to apply knowledge in practical situations.
- GC4 – Knowledge and understanding of the subject area and understanding of professional activity.
- GC5 – Ability to adapt and act in a new situation.
- GC6 – Ability to make reasonable decisions.
- GC7 – Ability to work in a team.
- GC8 – Ability to interpersonal interaction.
- GC10 – Ability to use information and communication technologies.
- GC11 – Ability to search, process and analyze information from various sources.
- GC12 – Determination and perseverance regarding the assigned tasks and assumed responsibilities.
- GC13 – Awareness of equal opportunities and gender issues.

- GC14 – Ability to realize one's rights and responsibilities as a member of society, to realize the values of public (free democratic) society and the need for its sustainable development, the rule of law, the rights and freedoms of a person and a citizen in Ukraine.
- GC15 – Ability to preserve and multiply moral, cultural, scientific values and achievements of society based on understanding the history and patterns of development of the subject area, its place in the general system of knowledge about nature and society and in the development of society, techniques and technologies, use different types and forms motor activity for active recreation and leading a healthy lifestyle.
- GC17 – Desire to preserve the environment.

**Special (SC):**

- SC1 – Ability to collect medical information about the patient and analyze clinical data.
- SC2 – Ability to determine the necessary list of laboratory and instrumental studies and evaluate their results.
- SC3 – Ability to establish a preliminary and clinical diagnosis of the disease.
- SC4 – Ability to determine the necessary regime of work and rest in the treatment and prevention of diseases.
- SC5 – Ability to determine the nature of nutrition in the treatment and prevention of diseases.
- SC6 – Ability to determine the principles and nature of treatment and prevention of diseases.
- SC7 – Ability to diagnose emergency conditions.
- SC8 – Ability to determine tactics and provide emergency medical care.
- SC11 – Ability to solve medical problems in new or unfamiliar environments in the presence of incomplete or limited information, taking into account aspects of social and ethical responsibility.
- SC13 – Ability to carry out sanitary and hygienic and preventive measures.
- SC16 – Ability to fill medical documentation, including electronic forms.
- SC17 – Ability to assess the impact of the environment, socio-economic and biological determinants on the state of health of an individual, family, population.
- SC21 – Ability to clearly and unambiguously convey one's own knowledge, conclusions and arguments on health care problems and related issues to specialists and non-specialists, in particular to people who are studying.
- SC24 – Adherence to ethical principles when working with patients and laboratory animals.
- SC25 – Adherence to professional and academic integrity, being responsible for the reliability of the obtained scientific results.
- SC26 – Ability to determine the management tactics of persons subject to dispensary supervision.

**Expected learning outcomes. As a result of studying, the applicant must:**

**Have:**

- PLO1 – Having a thorough knowledge of the structure of professional activity. Being able to carry out professional activities that require updating and integration of knowledge. To be responsible for professional development, the ability for further professional training with a high level of autonomy.
- PLO2 – Understanding and knowledge of basic and clinical biomedical sciences, at a level sufficient for solving professional tasks in the field of health care.
- PLO3 – . Specialized conceptual knowledge that includes scientific achievements in the field of health care and is the basis for conducting research, critical understanding of problems in the field of medicine and related interdisciplinary problems.
- PLO4 – Identifying leading clinical symptoms and syndromes (according to list 1); according to standard methods, using preliminary data of the patient's history, data of the patient's examination, knowledge about the person, his organs and systems, establish a preliminary clinical diagnosis of the disease (according to list 2)..

- PLO5 – Collecting complaints, history of life and diseases, assessing the psychomotor and physical development of the patient, the state of organs and systems of the body, based on the results of laboratory and instrumental studies, evaluation of the information regarding the diagnosis (according to list 4), taking into account the age of the patient..
- PLO6 – Establishing the final clinical diagnosis by making a reasoned decision and analyzing the received subjective and objective data of clinical, additional examination, carrying out differential diagnosis, observing the relevant ethical and legal norms, under the control of the managing physician in the conditions of the health care institution (according to the list 2).
- PLO7 – . Assigning and analyzing additional (mandatory and optional) examination methods (laboratory, functional and/or instrumental) (according to list 4) of patients with diseases of organs and body systems for differential diagnosis of diseases (according to list 2).
- PLO8 – Determination of the main clinical syndrome or symptom that determines the severity of the victim's/victim's condition (according to list 3) by making a reasoned decision about the person's condition under any circumstances (in the conditions of a health care facility, outside its borders), including in conditions of emergency and hostilities, in field conditions, in conditions of lack of information and limited time.
- PLO9 – Determination of the nature and principles of treatment (conservative, operative) of patients with diseases (according to list 2), taking into account the patient's age, in the conditions of a health care institution, outside its borders and at the stages of medical evacuation, including in field conditions, based on a preliminary clinical diagnosis, observing the relevant ethical and legal norms, by making a reasoned decision according to existing algorithms and standard schemes, in case of the need to expand the standard scheme, be able to justify personalized recommendations under the control of the head physician in the conditions of a medical institution.
- PLO10 – Determination of the necessary mode of work, rest and nutrition based on the final clinical diagnosis, observing the relevant ethical and legal norms, by making a reasoned decision according to existing algorithms and standard schemes.
- PLO12 – Assessment of the general condition of a newborn child by making a reasoned decision according to existing algorithms and standard schemes, observing the relevant ethical and legal norms.
- PLO13 – Assessment and monitoring of the child's physical and psychomotor development, provision of recommendations on feeding and nutritional features depending on age, and organization of preventive vaccinations according to the calendar.
- PLO14 – Determination of tactics and providing emergency medical care in emergencies (according to list 3) in limited time conditions according to existing clinical protocols and standards of treatment.
- PLO17 – Performing medical manipulations (according to list 5) in the conditions of a medical institution, at home or work based on a previous clinical diagnosis and/or indicators of the patient's condition by making a reasoned decision, observing the relevant ethical and legal norms.
- PLO21 – Searching for the necessary information in the professional literature and databases of other sources, analysing, evaluating and application of this information.
- PLO25 – Conveying one's knowledge, conclusions and arguments on health care problems and related issues to specialists and non-specialists clearly and unambiguously.
- PLO27 – Communication freely in the state language and English, both orally and in writing to discuss professional activities, research and projects.
- PLO30 – Determination of the management tactics of persons subject to dispensary supervision (children, pregnant women, workers whose professions require mandatory dispensary examination)

**Expected learning outcomes. As a result of studying the academic discipline, the application's acquisition of the higher education must:**

**Know:** the work of organizing and carrying out preventive vaccinations in children, adverse events during vaccination, emergency care for anaphylactic shock and allergic reactions

**Be able to:**

- Plan and carry out preventive vaccinations in children
- Analyze the vaccination calendar.
- Draw up a vaccination schedule for children with a violation of the vaccination calendar.
- Communicate with the child's parents regarding the need for vaccination and drawing up an individual vaccination schedule for the child
- Organize the vaccination office.
- Fulfill the requirements for storage, transportation and use of vaccines.
- Fill in the informed consent for vaccination.
- Perform medical manipulations with various vaccine administration techniques.
- Communicate with anti-vaccinators.
- To analyze the causes of the development of adverse events during vaccination.
- To prevent adverse events during immunization.
- Provide notifications and recommendations for surveillance of adverse events during vaccination.
- Determine the tactics and provide emergency medical aid in case of anaphylactic shock.
- Provide emergency care for allergic reactions during vaccination: acute urticaria, angioedema
- Keep medical documentation for vaccinations in children

### **3. Content of elective discipline «Vaccination in children and adults»**

#### **Content module 1.**

##### **Topic 1. Work on the organization and implementation of preventive vaccinations in children.**

Vaccination according to the calendar. Classification of vaccines. Mandatory and recommended vaccines.

##### **Topic 2. Work on the organization and implementation of preventive vaccinations in children**

- . Vaccination of children with a calendar violation.

##### **Topic 3. Practicing practical skills of vaccination.**

Organization of the vaccination office. Vaccine administration technique. Combination of drugs for vaccination.

##### **Topic 4. Development of communication skills during vaccination of children.**

Communication with parents regarding the need for vaccination and drawing up an individual vaccination schedule for the child. Working with anti-vaccinators.

##### **Topic 5. Adverse events during vaccination.**

Complicated course of the post-vaccination period. Post-vaccination reactions. Post-vaccination complications. Vaccination Adverse Event Surveillance Notifications and Guidelines.

##### **Topic 6. Emergency care for anaphylactic shock.**

Criteria for the occurrence of anaphylactic shock. Clinic of anaphylactic shock. First aid algorithm.

##### **Topic 7. Emergency care for allergic reactions.**

Allergic reactions not associated with anaphylaxis (urticaria, angioedema): clinic, diagnosis, treatment.

### Topic 8. Informed consent for vaccination.

#### 4. The structure of the academic discipline

Names of topics	Number of hours					
	Total	Including				
		Lectures	Seminars	Practical	laboratory	ISW
Content module 1. Vaccination in children and adults						
<b>Topic 1. Work on the organization and implementation of preventive vaccinations in children.</b> Vaccination according to the calendar. Classification of vaccines. Mandatory and recommended vaccines.	6	0	2	0	0	4
<b>Topic 2. Work on the organization and implementation of preventive vaccinations in children.</b> Vaccination of children with a calendar violation.	6	0	2	0	0	4
<b>Topic 3. Practicing the practical skills of vaccination.</b> Organization of the vaccination office. Vaccine administration technique. Combination of drugs for vaccination.	6	0	2	0	0	4
<b>Topic 4. Development of communication skills during vaccination of children.</b> Communication with parents regarding the need for vaccination and drawing up an individual vaccination schedule for the child.	6	0	2	0	0	4

Working with anti-vaccinators.						
<b>Topic 5. Adverse events during vaccination.</b> Complicated course of the post-vaccination period. Post-vaccination reactions. Post-vaccination complications. Vaccination Adverse Event Surveillance Notifications and Guidelines.	6	0	2	0	0	4
<b>Topic 6. Emergency aid for anaphylactic shock.</b> Criteria for the occurrence of anaphylactic shock. Clinic of anaphylactic shock. First aid algorithm.	6	0	2	0	0	4
<b>Topic 7. Emergency care for allergic reactions</b> Allergic reactions not associated with anaphylaxis (urticaria, angioedema): clinic, diagnosis, treatment.	5	0	2	0	0	3
<b>Topic 8. Informed consent for vaccination.</b>	4	0	2	0	0	2
<i>Together according to content module 1</i>	45	0	16	0	0	29
<i>Individual tasks</i>	0	0	0	0	0	0
<b>Total hours</b>	45	0	16	0	0	29

## 5. Topics of lectures / seminars / practical / laboratory classes

5.1. The topics of the lectures are not provided

5.2. Topics of seminar classes

№	Thema	hours
1.	<b>Topic 1. Work on the organization and implementation of preventive vaccinations in children.</b> Vaccination according to the calendar. Classification of vaccines. Mandatory and recommended vaccines.	2
2.	<b>Topic 2. Work on the organization and implementation of preventive vaccinations in children.</b> Vaccination of children with a calendar violation.	2
3.	<b>Topic 3. Practicing the practical skills of vaccination.</b>	2



	Organization of the vaccination office. Vaccine administration technique. Combination of drugs for vaccination.	
4.	Topic 4. <b>Development of communication skills during vaccination of children.</b> Communication with parents regarding the need for vaccination and drawing up an individual vaccination schedule for the child. Working with anti-vaccinators.	2
5.	Topic 5. <b>Adverse events during vaccination.</b> Complicated course of the post-vaccination period. Post-vaccination reactions. Post-vaccination complications. Vaccination Adverse Event Surveillance Notifications and Guidelines.	2
6.	Topic 6. <b>Emergency aid for anaphylactic shock.</b> Criteria for the occurrence of anaphylactic shock. Clinic of anaphylactic shock. First aid algorithm.	2
7.	Topic 7. Emergency care for allergic reactions Allergic reactions not associated with anaphylaxis (urticaria, angioedema): clinic, diagnosis, treatment.	2
8.	Topic 8. <b>Informed consent for vaccination.</b>	2
	Total	16

### 5.3. The topics of practical classes are not provided

#### 6. Independent work of a applicant of higher education

№	Types of ISW	Number of hours
1	Preparation for the seminar class: . Work on the organization and implementation of preventive vaccinations in children. Vaccination according to the calendar. Classification of vaccines. Mandatory and recommended vaccines.	4
2	Preparation for the seminar class: Work on the organization and implementation of preventive vaccinations in children. Vaccination of children with a calendar violation.	4
3	Preparation for the seminar: Practicing the practical skills of vaccination. Organization of the vaccination office. Vaccine administration technique. Combination of drugs for vaccination.	4
4	Preparation for the seminar class: Mastering communication skills during vaccination of children. Communication with parents regarding the need for vaccination and drawing up an individual vaccination schedule for the child. Working with anti-vaccinators.	4
5	Preparation for the seminar session: Adverse events during vaccination. Complicated course of the post-vaccination period. Post-vaccination reactions. Post-vaccination complications. Vaccination Adverse Event Surveillance Notifications and Guidelines.	4
6	Preparation for the seminar: First aid for anaphylactic shock. Criteria for the occurrence of anaphylactic shock. Clinic of anaphylactic shock. First aid algorithm.	4
7	Preparation for the seminar: First aid for allergic reactions. Allergic reactions not associated with anaphylaxis (urticaria, angioedema): clinic, diagnosis, treatment.	3
8	Preparation for the seminar session: Informed consent for vaccination.	2

	Total	29
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## 7. Teaching methods

**Seminar classes:** discussion of theoretical issues, frontal survey on basic terminology, testing, role-playing games for mastering communication skills with a child or his parents, planning and carrying out preventive vaccinations for children and adults (work in a team).

**Independent work:** preparation on the topics of the seminar.

## 8. Forms of control and assessment methods (including criteria for evaluating learning outcomes)

**Current control:** assessment of mastery of practical skills of communication with the child and his parents, planning and carrying out preventive vaccinations, providing emergency aid in adverse conditions during vaccinations in children and adults, during role play.

**Final control:** test.

*The structure of the current assessment at the seminar session*

- Assessment of compliance with the communication algorithm during the role-playing game;
- maximum score – 5, minimum score – 3, unsatisfactory score – 2.
- Assessment of the appointment of additional examination methods and their interpretation
- maximum score – 5, minimum score – 3, unsatisfactory score – 2;
- Assessment of the justification of the preliminary or clinical diagnosis and determination of patient management tactics.
- maximum score – 5, minimum score – 3, unsatisfactory score – 2;

The grade for the lesson is the arithmetic average of all components and can only have an integer value, namely 5, 4, 3, 2.

### Current assessment criteria for the seminar session:

Excellent "5"	The applicant is fluent in the material, takes an active part in the role-play, discussion and solution of the situational clinical problem, confidently demonstrates practical skills during the examination of a sick child and the interpretation of clinical, laboratory and instrumental research data, expresses his opinion on the subject of the lesson, demonstrates clinical thinking.
Good "4"	The applicant has a good command of the material, participates in a role-play, discussion and solution of a situational clinical problem, demonstrates practical skills during the examination of a sick child and the interpretation of clinical, laboratory and instrumental research data with some errors, expresses his opinion on the subject of the lesson, demonstrates clinical thinking.
Satisfactorily "3"	The applicant does not have sufficient knowledge of the material, is unsure of participating in a role play, discussing and solving a situational clinical problem, demonstrates practical skills during the examination of a sick child and the interpretation of clinical, laboratory and instrumental research data with significant errors.
Unsatisfactorily "2"	The applicant does not master the material, does not take part in a role-play, discussion and solution of a situational clinical problem, does not demonstrate practical skills during the examination of a sick child and the interpretation of clinical, laboratory and instrumental research data.

### **9. Distribution of points received by the application's acquisition of the higher education of higher education**

The applicant for higher education is credited with an optional discipline, provided there is no academic debt and an average current grade of at least 3.0.

### **10. Methodological support:**

- The working program of a selective academic discipline
- Syllabus of selective academic discipline
- Textbooks:

Nelson Textbook of Pediatrics / R. M. Kliegman [et al.] ; ed. R. E. Behrman.

21th ed. - Edinburgh [etc.] : Elsevier, 2020. - Vol. 1. – LXXV.

Nelson Textbook of Pediatrics [Text] / R. M. Kliegman [et al.] ; ed. R. E. Behrman. 21th ed. - Edinburgh [etc.] : Elsevier, 2020. - Vol. 2. - LXXV.

- Multimedia presentations
- Test tasks
- Methodical development of seminar classes

### **11. List of recommended reading:**

#### **Basic:**

11. Nelson Textbook of Pediatrics / R. M. Kliegman [et al.] ; ed. R. E. Behrman. - 21th ed. - Edinburgh [etc.] : Elsevier, 2020. - Vol. 1. – LXXV.

2. Nelson Textbook of Pediatrics [Text] / R. M. Kliegman [et al.] ; ed. R. E. Behrman. - 21th ed. - Edinburgh [etc.] : Elsevier, 2020. - Vol. 2. - LXXV.

### **12. Electronic information resources**

1. E-learning course on Vaccine Safety Basics. Electronic vaccine safety training course <http://vaccine-safety-training.org/>

2. WHO Global Vaccine Safety Page  
[https://www.who.int/vaccine\\_safety/publications/en/](https://www.who.int/vaccine_safety/publications/en/)

3. ACIP General Best Practice Guidelines for Immunization | CDC

4. <https://www.who.int> World Health Organization General principles for vaccine scheduling