



**Educational and Scientific Institute of Medicine
Department of Ophthalmology**

Syllabus of the academic discipline

"OPHTHALMOLOGY"

(Main discipline)

Educational level: second (master's2)
Discipline: 22 "Healthcare"
Specialty: 222 "Medicine"
Educational and
professional
program: "Medicine"

2025/2026 academic year

Department of Ophthalmology

Contacts (ophthalm@nmu.ua).

Syllabus of the academic discipline: "Ophthalmology".

Higher education level: second (master's) .

Specialty: 222 "Medicine".

Educational program: Educational and professional program "Medicine".

1. Course abstract:

Year of study: 4th year of study. **Semester(s) :** 7, 8.

Module volume: total number of hours – 90, of which practical classes – 40 hours, independent work – 50 hours; number of ECTS credits – 3.

Language of instruction: Ukrainian.

Form of study: full-time.

2. The purpose of teaching the discipline "Ophthalmology" (hereinafter referred to as ED) - **is** the formation of a system of theoretical knowledge and practical skills among higher education students to provide medical care to patients with diseases of the organ of vision.

Learning outcomes: the program competencies for the EPP "Medicine", the formation of which is ensured during the training of ED include: GC1-GC8, GC10-GC15, SC1-SC8, SC10-SC11, SC16, SC21, SC23–SC25, PLO1-PLO7, PLO9-PLO10, PLO14, PLO17-PLO18, PLO21-PLO22, PLO25, PLO27, namely:

integral competence: Ability to solve complex problems, including research and innovation in the field of medicine. Ability to continue learning with a high degree of autonomy.

general competencies (GC):

GC1. Ability for 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 informed decisions.

GC7. Ability to work in a team.

GC8. Ability for interpersonal interaction.

GC10. Ability to use information and communication technologies.

GC11. Ability to search, process and analyze information from various sources.

GC12 . Determination and persistence in relation to the tasks set and the responsibilities assumed.

GC13. Awareness of equal opportunities and gender issues.

GC14. Ability to exercise one's rights and responsibilities as a member of society, to realize the values of a civil (free democratic) society and the need for its sustainable development, the rule of law, and the rights and freedoms of man and citizen in Ukraine.

GC15. The ability to preserve and multiply the 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, technology and engineering, to use various types and forms of physical activity for active recreation and leading a healthy lifestyle.

special (professional, subject) competencies (SC):

SC1. Ability to collect medical information about a 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 work and rest regime 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.

SC10. Ability to perform medical manipulations.

SC11. Ability to solve medical problems in new or unfamiliar environments with incomplete or limited information, taking into account aspects of social and ethical responsibility.

SC16. Ability to maintain medical records, including electronic forms.

SC21. Clearly and unambiguously communicate one's own knowledge, conclusions, and reasoning on relevant health care issues to specialists and non-specialists, including students.

SC23. Ability to develop and implement scientific and applied projects in the field of healthcare.

SC24. Adherence to ethical principles when working with patients and laboratory animals.

SC25. Adherence to professional and academic integrity, responsibility for the reliability of scientific results obtained.

program learning outcomes:

PLO1. Have a thorough knowledge of the structure of professional activity. Be able to carry out professional activities that require updating and integration of knowledge. Be responsible for professional development, the ability to further professional learning with a high level of autonomy.

PLO2. Understanding and knowledge of fundamental and clinical biomedical sciences, at a level sufficient to solve professional tasks in the field of healthcare.

PLO3. Specialized conceptual knowledge that includes scientific achievements in the field of health care and is the basis for conducting research, critical thinking about problems in the field of medicine and related interdisciplinary problems, including the system of early intervention.

PLO4. To identify and identify the leading clinical symptoms and syndromes; using standard methods, using preliminary data from the patient's history, patient examination data, knowledge about the person, his organs and systems, to establish a preliminary clinical diagnosis of the disease.

PLO5. Collect complaints, life and disease history, assess the patient's psychomotor and physical development, the condition of organs and body systems, and based on the results of laboratory and instrumental studies, evaluate information regarding the diagnosis, taking into account the patient's age.

PLO6. Establish a final clinical diagnosis by making a reasoned decision and analyzing the obtained subjective and objective data of clinical, additional examination, and conducting differential diagnostics, adhering to relevant ethical and legal norms, under the supervision of the head physician in a healthcare facility.

PLO7. Prescribe and analyze additional (mandatory and optional) examination methods (laboratory, functional and/or instrumental) for patients with diseases of organs and body systems for differential diagnosis of diseases.

PLO9. Determine the nature and principles of treatment of patients (conservative, surgical) with diseases, taking into account the patient's age, in the conditions of a healthcare institution, outside it and at the stages of medical evacuation, including in field conditions, based on a preliminary clinical diagnosis, adhering to relevant ethical and legal norms, by making a reasoned decision according to existing algorithms and standard schemes, if necessary, expand the standard scheme, be able to substantiate personalized recommendations under the supervision of a head physician in a medical institution.

PLO10. Determine the necessary work, rest, and nutrition regimen based on the final clinical diagnosis, adhering to relevant ethical and legal norms, by making a reasoned decision based on existing algorithms and standard schemes.

PLO14. Determine tactics and provide emergency medical care in emergency situations in limited time according to existing clinical protocols and treatment standards.

PLO17. Perform medical manipulations in a medical facility, at home, or at work based on a preliminary clinical diagnosis and/or indicators of the patient's condition by making an informed decision, adhering to relevant ethical and legal norms.

PLO18. Determine the state of functioning and limitations of a person's vital activities and the duration of incapacity for work with the execution of relevant documents, in a healthcare facility based on data on the disease and its course, the characteristics of the person's professional activity, etc. Maintain medical documentation regarding the patient and the population based on regulatory documents.

PLO21. Find the necessary information in professional literature and databases, other sources, analyze, evaluate and apply this information.

PLO22. Apply modern digital technologies, specialized software, and statistical methods of data analysis to solve complex healthcare problems.

PLO25. Clearly and unambiguously communicate one's own knowledge, conclusions, and reasoning on health care problems and related issues to specialists and non-specialists.

PLO27. Communicate fluently in the state language and English, both orally and in writing, to discuss professional activities, research, and projects.

3. Lecture topics.

Lectures are not included in the curriculum.

4. Topics of practical classes.

No.	Practical lesson topic	Hours
1 .	Anatomical and topographic features of the organ of vision. Functions of the organ of vision.	4.0
2.	Refraction and accommodation. Strabismus.	4.0
3.	Diseases of the eyelids and conjunctiva.	4 .0
4.	Diseases of the lacrimal organs and orbit.	4 .0
5.	Corneal diseases. Lens diseases.	4 .0
6.	Diseases of the choroid. Curation.	4.0
7.	Glaucoma.	4 .0
8.	Diseases of the retina and optic nerve. Changes in the organ of vision in common diseases.	4 .0
9.	Damage to the organ of vision. Emergency care.	4 .0
10.	Emergency conditions in ophthalmology. Protection of medical history. Final control.	4 .0
Total		40

5. Independent work.

No.	Name	Hours
1 .	Independent study of theoretical questions for practical classes, writing workbooks, working on practical skills for practical classes, writing a medical history, working on topics that are assigned for independent study by students , completing an individual task, preparing for the final test.	50
Total		50

6. Individual tasks.

An individual task or individual educational and research task (hereinafter referred to as IERT) is a type of extracurricular independent work of a higher education institution of an educational or educational and research nature, which is used in the process of studying the program material of the educational course. IERT contains an element of search, partly research work and acts as a factor in involving higher education institutions in scientific and research activities.

The purpose of the IERT. Independent study of part of the program material, systematization, deepening, generalization, consolidation and practical application of knowledge of the Higher Education Department from the training course and development of independent work skills.

Content of the IERT. The IERT is a completed theoretical or practical work within the framework of the ND, which is carried out on the basis of knowledge and practical skills obtained during lectures and practical classes, covers several topics or the content of the training course as a whole.

Structure (indicative) of the IERT: introduction (the topic, goal and objectives of the work and its main provisions are indicated); theoretical justification (statement of basic theoretical provisions, laws, principles, algorithms, etc., on the basis of which the task is performed); methods (when performing practical, calculation, modeling work); main results of the work and their discussion (statistical or qualitative results of the work, diagrams, drawings, models, descriptions, systematized abstract information and its analysis, etc. are presented); conclusions; list of used literature.

Procedure for submitting and defending the IERT: the report on the implementation of the IERT is submitted in the form of an abstract with a standard title page and internal content indicating all items of the task content (up to 15 pages); the IERT is submitted to the teacher; the grade for the IERT is given at the final practical session based on the results of the HEI's oral report on the work performed (up to 10 minutes) and the teacher's preliminary familiarization with the content of the IERT.

The number of points for the IERT depends on its volume and significance, but no more than 10 points. These points are added to the sum of points scored by the HEI for the current educational activity. Points for the IERT are awarded to the

HEI only if they are successfully completed and defended. The HEI has the opportunity to complete one IERT per training course in this SD.

7. Teaching methods.

General methods: story, illustration, conversation.

Problem-searching: action (solving problems, displaying schematic drawings); heuristic (conversation, discussion, debate); methods of problem-based presentation of educational material.

Logical methods: inductive (from the particular to the general); deductive (from the general to the particular); analysis, synthesis, generalization, comparison, abstraction.

Methods of forming interest: methods of intellectual collective activity and simulation methods (working with biomaterial , analysis of production situations, direct execution of procedures, game design, business games, role-playing method, etc.).

Self-study: “learning by module text” method.

8. Evaluation

Assessment of educational activities is regulated by the Regulations on the "[Procedure for assessing students' knowledge during current and final control in discipline at the O.O. Bogomolets National Medical University](#) " (Protocol No. 4 of the meeting of the Academic Council of the Bogomolets National Medical University from 28 November 2024).

The grade "EXCELLENT" is given to the student who performed the practical work qualitatively, took an active part in the discussion of the most difficult issues, and provided 100% correct answers to the questions posed on the topic of the lesson.

A "GOOD" rating is given to a student who performed practical work qualitatively, actively participated in the discussion of the most complex issues, but made some minor errors in answering the questions posed on the topic of the lesson.

A grade of "SATISFACTORY" is given to a student who performed practical

work qualitatively, but did not actively participate in the discussion of the most complex issues, or made significant mistakes in answering the questions posed on the topic of the lesson.

A grade of "UNSATISFACTORY" is given to a student who did not complete or did not complete the practical work qualitatively, did not participate in the discussion of questions on the topic of the lesson, or did not provide any correct answers to the questions posed on the topic of the lesson.

Current control provides for 100% survey of the HEI during a practical lesson with mandatory assessment of all constituent elements (stages) of the lesson - test control, oral questioning, solving situational problems, description of preparations, control of mastery of practical skills. For each constituent element (stage) of the practical lesson, the HEI receives a grade on a four-point traditional scale "5-4-3-2", from which the teacher forms the arithmetic average traditional grade.

The marks given on the traditional scale are converted into points depending on the number of topics in the module. The number of points corresponding to the mark "5" is calculated by dividing the maximum number of points for the current educational activity by the number of practical classes. To calculate the mark "3", the number of points is calculated, which is 60% of the maximum number of points for the current educational activity. The weight of each topic within one module in points must be the same.

If during the formation of the arithmetic average traditional grade for the lesson, the student receives a "2", then this grade is converted into 0 points. The student has the right to improve his knowledge and skills on the topic for which he received an overall grade of "2" and, accordingly, 0 points, during the current control at the next lesson without receiving points. The lessons that the student missed for any reason are mastered by him independently in extracurricular time according to the department's regulations without giving a grade. The sum of points that the student has accumulated as a result of the current study is a component of the overall grade for the academic discipline. The sum of points for the current control is calculated as the sum of points received by the student during the educational activity at each practical lesson. The maximum number of points that a student can accumulate for the current control is 80 points. For the assessment of individual

work The Department of Higher Education is awarded points within 80 points by decision of the department. There is no minimum score for admission to the final examination in the academic discipline.

Evaluation of current learning activities.

Traditional assessment	Conversion into points
"5"	8
"4"	7
"3"	5
"2"	0

Final control is carried out upon completion of the study of the discipline in the last lesson. Final control is carried out in the form of a summary control.

Students' processing of the subjects of the academic discipline, which are assigned for independent processing, is controlled during the final control. Writing and defending a medical history (included) is mandatory for admission to the final control.

Students are allowed to take the final examination in the discipline provided they attend at least 75% of classroom classes (lectures, practical classes) with the entire accumulated amount of points during the study of the discipline. The student's ability to take the final examination in the discipline is not affected by the results of other disciplines.

If a student has attended less than 75% (missed more than 25% of classes) of classroom classes, he is considered to have failed the curriculum and syllabus for the discipline, and therefore must re-study the discipline.

The regulations for conducting final control with a list of questions are discussed and approved at the methodological meeting of the department, the Central Medical Committee for Surgical Disciplines, approved by the Vice-Rector for Scientific, Pedagogical and Educational Work and made public before the start of training (website, stand, familiarization at the first lecture or practical session).

Final control of the discipline is carried out upon completion of the study of the discipline. Final control is carried out in written and oral form: answers to test

tasks, theoretical questions, solving situational problems with justification. The final examination is submitted to the teacher in writing. After the teacher checks the completed written tasks, the final examination may be asked additional questions to clarify the answers to the questions on the ticket. The final examination demonstrates to the teacher the performance of a practical skill. The grade for the final examination in the academic discipline is the sum of the points that the student received for each stage of the final examination. The final knowledge test is rated at a maximum of 120 points.

When assigning a grade for a discipline, the student's accumulated points for current studies and the result of the final control in points are taken into account. The maximum number of points that a student can receive while studying a discipline is 200 points. To be credited with credits for the studied discipline, the total number of points received by the student in the discipline must be no less than the minimum, which is determined by the working curriculum for the discipline and corresponds to the minimum value of the grade E, and therefore is 111 points. The student's performance assessment in the discipline is assigned on a 200-point scale and converted into a grade on a traditional (four-point) scale and on the ECTS scale. The grade is displayed in the relevant information.

Conducting final control in the academic discipline "Ophthalmology" consists of three stages: writing tests on emergency conditions (12 tests); answers to 3 theoretical questions on the discipline (according to the list of theoretical questions for the final control on the discipline); performing a practical skill (according to the list of practical skills for the final control on the discipline) and solving a situational problem. The final control on the academic discipline "Ophthalmology" is carried out in written and oral form.

Evaluation criteria for the final examination in the academic discipline

"Ophthalmology".

Writing tests on emergency conditions (and/or oral response):

12 questions (2 points for each correct answer).

Criteria for evaluating answers to theoretical questions.

Traditional assessment	Conversion into points
"5"	24
"4"	18

"3"	13
"2"	0

Criteria for evaluating the performance of a practical skill.

12 points	The student performs the manipulation without any comments from the teacher.
6 points	The student can perform a manipulation with difficulties that can be eliminated with the help of the teacher.
0 points	The student cannot perform the manipulation.

Criteria for evaluating the solution of a situational problem.

12 points	Full answer
6 points	Incomplete answer
0 points	Wrong answer

Correspondence of scales for assessing the quality of learning material.

<i>Score</i>	<i>National scale assessment</i>	<i>ECTS grade</i>	<i>Explanation</i>
170-200	Perfectly	A	Excellent (excellent performance with only a few errors).
155-169	Good	B	Very good (above average with a few errors).
140-154		C	Good (generally correct execution with a certain number of significant errors).
125-139	Satisfactorily	D	Satisfactory (not bad, but with a significant number of shortcomings).
111-124		E	Sufficient (performance meets minimum criteria).
60—110	Unsatisfactorily	FX	Unsatisfactory (with the possibility of reassembly).
1-59		F	Unsatisfactory (with mandatory re-study of the discipline).

8. The course policy requires compliance with the Academic Integrity Code :

- independent performance of all types of work, tasks, and forms of control that involve mastering the academic discipline;
- references to sources of information when using ideas, developments, statements, information;
- compliance with the norms of legislation on copyright and related rights;

- providing reliable information about the results of one's own (educational, scientific, creative) activities, research methods used and sources of information.

In case of non-compliance with the norms and principles of academic integrity, points for performing any forms and types of control are canceled in full upon providing a confirmed fact of plagiarism.

9. Recommended reading.

Basic:

1. Ophthalmology: textbook /ed. G.D. Zhaboyedova, R.L. Skrypnyk. - K.: VSV "Medicine", 2011. - 424 p.
2. Zhaboyedov G.D., Kireev V.V. Ophthalmology: practical course: textbook. – K.: VSV “Medicine”, 2013. – 280 p.
3. Ophthalmology: textbook /OP Vitovska , PA Bezditko , IM Bezkorovayna et al.—2nd edition. – Kyiv: AUS Medicine Publishing, 2020. – 648 p.

Additional:

1. Butterbury M., Murphy K. Ophthalmology: text and color illustrations: 4th edition. – Kyiv: VSV “Medicine”, 2024. – 135 p.
2. Bezditko P.A., Panchenko M.V., Duras I.G. et al. Conjunctival diseases. Methodological guidelines for students and interns. - Kharkiv: KhNMU, 2018. - 24 p.
3. Bezditko P.A., Panchenko M.V., Duras I.G. et al. Orbital diseases. Methodological guidelines for students and interns. – Kharkiv: KhNMU, 2019. – 16 p.
4. Bezditko P.A., Panchenko M.V., Duras I.G. et al. Modern methods of ophthalmological diagnostics. Methodological guidelines for students and interns. – Kharkiv: KhNMU, 2016. – 20 p.
5. Bezkorovayna I.M., Ryadnova V.V., Voskresenska L.K. Ophthalmology. Textbook for students of higher medical institutions of III-II levels of accreditation. – Poltava: “Dyvosvit”, 2012. – 248 p.
6. Wenger G.Yu., Soldatova A.M., Wenger L.V. Ophthalmology. Lecture course: textbook – Odessa: Odessa Medical University , 2010. - 180 p.

7. Amazing Nearby. Clinical Cases in Pediatric Ophthalmology. Part 1. /Edited by N.F. Bobrova. – Odesa, 2023.- 214 p.
8. Zhaboyedov D.G., Skrypnyk R.L., Tikhonchuk N.A. Dry eye disease (features of pathogenesis, diagnostics and treatment). – K.: FOP Lopatina O.O., 2024. – 184 p.
9. Zavgorodnya N.G., Sarzhevskaya L.E., Ivakhnenko O.M. et al. Anatomy of the eye. Research methods in ophthalmology: a textbook for medical students . – Zaporizhzhia, 2017. – 76 p.
10. Krasnovyd T.A. Traumatic eye injuries. Intraocular foreign bodies. – Odessa: Astroprint , 2013. – 124 p.
11. Lutsenko N.S., Rudycheva O.A., Isakova O.A. et al. Macula . Modern diagnostics. Optical coherence tomography and optical coherence tomography angiography. Teaching and methodical manual. – Orbita-South Agency, 2019. – 144 p.
12. Davidson's Medicine: Principles and Practice. /Edited by Stuart G. Ralston , Ian D. Penman , Mark W. J. Stracke , Richard P. Hobson . Translation of the 23rd English edition; in 3 volumes. – Volume 3. – K.: VSV "Medicina", 2021. – 642 p.
13. Microprism diagnostics and treatment of strabismus in children: collection of scientific papers: Institute of Information Registration Problems of the NAS of Ukraine, 2020. – 316 p.
14. Novytsky I.Ya. Modern surgery of primary open-angle glaucoma. Transition to minimally invasive operations. - Lviv: Litopys, 2018. - 120 p.
15. Novytskyi I.Ya., Demchuk V.V., Gvozdeva T.A. Static perimetry in the glaucoma clinic. – Lviv: Litopys , 2020. – 68 p.
16. Fundamentals of clinical ophthalmology: textbook /ed. Z.F. Veselovska . – Knyga plus, 2023. – 336 p.
17. Peculiarities of providing medical care for traumatic eye injuries in the conditions of an anti-terrorist operation: methodological recommendations/ compiled by: 18. Krasnovyd T.A., Sidak-Petretska O.S., Isko K.D. et al. – Odessa: Pluton, 2014. – 19 p.
18. Glaucoma Terminology and Guidelines. 5th edition. European Glaucoma Society. – 2021. – 170 p.

19. Improvement of primary surgical treatment of penetrating corneal wounds: methodological recommendations /compiled by: Bobrova N.F., Shevchik V.I., Dembovetska G.M. – Kyiv, 2013. – 21 p.
20. The Wills Eye Manual. Office and emergency room diagnosis and treatment of eye diseases /Dr. Kalla Gervasio , Dr. Travis Peck. – Philadelphia: Wolters Kluwer, 2021. - 426p.
21. Image analysis and modeling in ophthalmology /Edited by Eddie YK Ng . - CRC Press, 2017.– 412 p.
22. Handbook of visual optics. Two-Volume Set /Pablo Artal . - CRC Press, 2021.– 832 pages .

Electronic resources.

1. Current "Clinical protocols approved by orders of the Ministry of Health of Ukraine on ophthalmology": https://www.dec.gov.ua/cat_mtd/oftalmologiya
2. Official website of the State Institution "Center for Public Health of the Ministry of Health of Ukraine": <https://phc.org.ua/>
3. Official website of the World Health Organization: <https://www.who.int/>

DEVELOPERS : Head of the Department of Ophthalmology, Doctor of Medical Sciences, Professor Zhaboiedov D.G., Associate Professor of a higher education institution, Candidate of Medical Sciences, Associate Professor Greben N.K., Associate Professor of a higher education institution, Candidate of Medical Sciences, Associate Professor Skrypnychenko I.D., Associate Professor of a higher education institution, PhD, Associate Professor Komarova T.M., Assistant Professor of a higher education institution, Candidate of Medical Sciences Salata P.M.

Discussed and approved at the meeting of the Department of Ophthalmology (Protocol No. 1 from September 1, 2025) and the meeting of the cyclical methodological commission for surgical disciplines (Protocol No. 1 from September 15, 2025).