Ministry of Health of Ukraine
Kharkiv National Medical University

SYLLABUS

of the discipline "Ophthalmology"

for masters in the field of training 22 "Health Care"

in specialty 222 "Medicine"

qualification master of medicine
(for English medium students)

Approved at a meeting of
ophthalmology department

Protocol № 15
"27" August 2020

Head of department
_____ prof. P.A. Bezdetko
(signature) (initials)

"27" August 2020 year

Approved by methodical problematic
surgery comission

Protocol № _____
"____" _____ 20___

Head of comission
_____ prof. V.O. Syplyviy
(signature) (initials)

"____" _____ 20____

Kharkiv - 2020

Fourth year of study
Required items:

Number of credits - 3

The total number of hours is 90.

Hours for full-time study: classroom - 40, independent student work - 50.

Year - 4, semester 7, or 8.

Practical classes 34 hours, lectures - 6 hours.

Independent work - 50 hours

Type of control: differential test.

Venue of lectures and practical classes: classrooms of the Department of Ophthalmology on the basis of Kharkiv Regional Clinical Hospital (7 Danilevskogo Street).

Classes: Monday, Tuesday, Wednesday, Thursday, Friday - according to the schedule.

Course coordinators

1. Bezditko Pavlo Andriyovych – the Head of the Department of Ophthalmology, d.med.n., professor.
2. Zavoloka Olesya Volodymyrivna – c.med.n., associate professor.

Course abstract

The course "Ophthalmology" is designed for 4th year students. During the course, practical classes are held, covering a wide range of important medical issues.

The purpose of the discipline "Ophthalmology" is to teach students the mastery of the necessary knowledge and skills, as well as actions to master the ethical and deontological foundations of visual protection of people of all ages, based on the study of age anatomy, physiology of vision, etiology and pathogenesis. their classifications, features of the clinical picture, as well as the acquisition and deepening of knowledge, skills, abilities and other competencies in medicine required in professional activities, which are established on the basis of educational and professional program.

The main objectives of the discipline "Ophthalmology" is to establish the theoretical foundations of ophthalmology as a science (terminology, research methods, general clinical symptoms of major eye diseases, principles of diagnosis and treatment, disease prevention). In addition, the task is for students to acquire competencies in accordance with the general and professional competencies of the educational-professional program "Medicine" of the second (master's) level of higher education in 222 Medicine qualification Master of Medicine: mastery of survey skills, ability to determine the necessary list of laboratory and instrumental research in ophthalmology , and evaluation of their results, establishing a preliminary and clinical ophthalmological diagnosis of the disease, determining the principles and nature of treatment of diseases of the visual organ, performing ophthalmic medical manipulations, diagnosing emergencies and providing emergency medical care for ocular pathological conditions, medical records, ability to apply knowledge in practice situations of clinical ophthalmology, understanding of the subject area and professional activity, the ability to adapt and act in a new situation, making an informed decision, the ability to work in a team, to act socially responsible and conscious.

Organization of training - educational and thematic plan

№	Topic	Hours
1	Anatomical and topographic features of the organ of vision. Functions of the organ of vision. Research methods.	4
2	Refraction and accommodation. Strabismus. Diseases of the eyelids, lacrimal organs and orbit.	5
3	Diseases of the conjunctiva. Diseases of the cornea, sclera. Curation.	5
4	Diseases of the choroid. Diseases of the lens.	5
5	Glaucoma. Protection of medical history.	5
6	Diseases of the retina, optic nerve. Changes in the organ of vision in common diseases.	5
7	Damage to the organ of vision. Emergencies in ophthalmology and emergency care. Final control.	5
	Sum	**34**

Laboratory classes in the study of the discipline are not provided.

Individual work

№	Topic	Hours
1	Theoretical preparation and elaboration of practical skills on topic № 1 "Anatomical and topographic features of the organ o vision. Functions of the organ of vision. Research methods".	7
2	Theoretical preparation and elaboration of practical skills on the topic № 2 "Refraction and accommodation. Strabismus. Diseases of the eyelids, lacrimal organs and orbit".	7
3	Theoretical preparation and elaboration of practical skills on topic № 3 "Diseases of the conjunctiva. Diseases of the cornea sclera. Curation".	7
4	Theoretical preparation and elaboration of practical skills on he topic № 4 "Diseases of the choroid. Diseases of the lens".	7
5	Theoretical preparation and elaboration of practical skills on the topic № 5 "Glaucoma. Protection of medical history".	7
6	Theoretical preparation and elaboration of practical skills on e topic № 6 "Diseases of the retina, optic nerve. Changes in the organ of vision in common diseases".	8
7	Theoretical preparation and elaboration of practical skills on he topic № 7 "Damage to the organ of vision. Emergencies in ophthalmology and emergency care. Final control".	7
Sum		**50**

List of general (GC) and professional (PC) program competencies.
Discipline "Ophthalmology" (4th year of study) code OK 42

	GC 1	GC 2	GC 3	GC 4	GC 5	GC 6	GC 7	GC 8	GC 9	GC 10	PC 1	PC 2	PC 3	PC 4	PC 5	PC 6	PC 7	PC 8	PC 9	PC 10	PC 11	PC 12	PC 13	PC 14	PC 15	PC 16	PC 17
OK 42	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+			+	+	+			

Program competencies of students (according to the components of the educational program), which are formed during the mastering of the discipline «Ophthalmology»

General Competences (GC)

GC 1 – Ability to abstract thinking, analysis and synthesis, the ability to learn and be modernly trained

GC 2 - Knowledge in practical situations.

GC 3 - Knowledge and understanding of the subject area and understanding of professional activity.

GC 4 - Ability for adaptation and action in new situations.

GC 5 - Ability during substantiating materials; work in a team; interpersonal skills.

GC 6 - Ability to communicate in English both orally and in writing.

GC 7 - Using information and communication technologies.

GC 8 - Definiteness and perseverance in relation to the set tasks and responsibilities.

GC 9 - The ability to act socially responsibly and consciously.

Professional competencies (PC)

PC 1 – Survey skills.

PC 2 – Ability to determine the required list of laboratory and instrumental studies and evaluate their results.

PC 3 – Ability to establish a preliminary and clinical diagnosis of the disease.

PC 4 – Ability to determine the required mode of work and rest, the nature of nutrition in the treatment of diseases.

PC 5 – Ability to determine the principles and nature of disease treatment.

PC 6 – Ability to diagnose emergencies.

PC 7 – Ability to determine tactics and skills of emergency medical care.

PC 8 – Ability to carry out medical and evacuation measures.

PC 9 – Skills to perform medical manipulations.

PC 12 – Ability to determine the tactics of management of persons subject to dispensary supervision.

PC 13 – Ability to conduct a examination of working capacity.

PC 14 – Ability to keep medical records.

Program learning outcomes

Providing program learning outcomes (PLO) with appropriate components of the educational program

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	PLO 11	PLO 12	PLO 13	PLO 14	PLO 15	PLO 16	PLO 17	PLO 18	PLO 19	PLO 20	PLO 21
OK 42	+	+	+	+	+	+	+	+	+	+					+		+	+		+	+

Knowledge and understanding:

PLO 1 – acquisition by a person of general and special fundamental and professionally-oriented knowledge, skills, abilities, competencies necessary for the performance of typical professional tasks related to his / her activity in the medical field in the relevant position.

PLO 2 – knowledge of psychophysiological features of the person, human health, support of health, prevention of diseases, treatment of the person, health of the population

Application of knowledge and understanding:

PLO 3 – ability to apply the acquired knowledge, skills and understanding to solve typical problems of the doctor, the scope of which is provided by lists of syndromes and symptoms, diseases, emergencies, laboratory and instrumental research, medical manipulations

PLO 4 – collection of patient information

PLO 5 – evaluation of survey results, physical examination, laboratory and instrumental research data

PLO 6 – establishing a preliminary clinical diagnosis of the disease

PLO 7 – determining the nature, principles of treatment of diseases

PLO 8 – determination of the necessary diet, mode of work and rest when dictating diseases

PLO 9 – determining the tactics of contingent of persons subject to dispensary supervision

PLO 10 – diagnosing emergencies, determining the tactics of emergency medical care

PLO 15 – performing medical manipulations

PLO 17 – maintenance of medical documentation, processing of state, social and medical information

Formation of judgments:

PLO 18 – ability to assess and support human health taking into account the impact of the environment and other health factors

PLO 20 – ability to apply the acquired knowledge of the existing health care system to optimize their own professional activities and participate in solving practical problems of the industry

PLO 21 – the formation of a specialist with appropriate personal qualities, who adheres to the code of ethics of the doctor

Methods of calculating points in the current control, independent work and final control.

Organization of current control. Assimilation of the topic (current control) is controlled in a practical lesson in accordance with specific goals. The following tools are used to assess the level of preparation of students: computer tests, solving situational task, interpretation and evaluation of laboratory tests, analysis and evaluation of instrumental studies and parameters that characterize the functions of the human body, control of practical skills. The final lesson (FL) must be conducted in accordance with the curriculum during the semester on a schedule, during classes. Teacher of the academic group should carry out the FL. Assessment is carried out according to the traditional 4-point system: "excellent", "good", "satisfactory" and "unsatisfactory". The conversion of the average grade for current educational activities into a multi-point scale is carried out in accordance with the "Instructions for assessing the educational activities of students..." or the average grade (to the nearest hundredth) for PLO teacher automatically receives using the electronic journal ASU. The minimum number of points that a student must score for the current activity during the study of the section is 70 points, the maximum number of points - 120 points.

Assessment of students' independent work. Independent work of students, which is provided by the topic of the lesson along with the classroom work, is assessed during the current control of the topic in the relevant lesson.

Assessment of individual student tasks carried out under the conditions of the teacher's tasks (report of the abstract in a practical lesson, report with a presentation in a practical lesson, report at scientific and practical conferences of the department, university, writing abstracts, articles). Points (not more than 10) are added as incentives. The total amount of points for current educational activities may not exceed 120 points.

Organization of final control - differentiated credit. Admission to the differentiated test is determined in points of current educational activity, namely: min - 70, max - 120 points. Differentiated credit is made by the teacher of the academic group or by commission in case of disagreement of the student with the results of certification. If the differential test is not made - set the dates of re-assembly during the holidays, before the beginning of the next semester. Directly differentiated credit is estimated from - 50 to - 80 points.

Differentiated test is conducted by the group teacher at the last practical lesson and includes:

1. Assessment of theoretical knowledge on the tickets drawn up at the department, which include all topics of the discipline.
2. Assessment of the acquisition of practical skills and theoretical knowledge on all topics of the discipline. Assessment of practical skills is carried out according to the criteria of "performed", "failed".

List of questions for differentiated credit

1. Visual analyser, its importance in cognition of the external world.

2. History of ophthalmology. Kyiv School of Ophthalmology.

3. Achievements of modern ophthalmology. Outstanding ophthalmologists: VP Filatov, J. Merkulov, NO Puchkovskaya, ML Krasnov, MM Krasnov, SM Fedorov.

4. The concept of absolute, professional and social blindness. The main causes of blindness. Prevention of blindness in adults and children.

5. Blindness. Indicator of blindness. Training and employment of the blind.

6. Formation of visual images. The role of the cerebral cortex in the act of vision. Theories of the act of sight.

7. The cornea. its structure, blood supply, properties and functions.

8. Iris. its structure, blood supply, properties and functions.

9. Ciliary body and choroid, their structure, functions.

10. Muscles of the iris and ciliary body. Retina, its structure, functions of rods and cones.

11. Anatomy of the optic nerve, features of its structure and topography.

12. Crystaline lens. Its functions, power, properties.

13. Blood supply of the eyeball.

14. The structure of the orbit and its contents.

15. Muscles of the eyelids. Their function and innervation.

16. The structure of the conjunctiva. Clinical signs of her normal condition.

17. Anatomy of the lacrimal organs. Methods of examination of lacrimal ways.

18. External eye muscles, their innervation and function.

19. Binocular vision, its disorders, exam methods.

20. How to check visual acuity. Visual acuity formula.

21. Principles of constructing tables to determine visual acuity. Angle of view.

22. Peripheral vision and its examination. Types of visual field disorders.

23. Color perception, exam methods. Theories of color perception.

24. The main elements of the refractive system of the eye. The concept of diopter.

25. Types of clinical refraction. The role of the external environment in the formation of refraction. Methods for determining refraction (objective and subjective).

26. Optical glasses and their application. Contact lenses and their applications.

27. The volume and length of accommodation, its relationship with refraction. The farthest and closest point of view. Accommodation and its age changes. Presbyopia.

28. Hyperopia, clinical signs, diagnosis and correction.

29. Myopia, clinical signs, causes of development. Complications of myopia. Prevention of myopia progression.

30. Astigmatism, types and correction.

31. Anomalies of the eyelids (entropion, ectropion, ptosis, lagophthalmos). Causes, clinical signs, methods of treatment.

32. Inflammatory diseases of the eyelids, stye, chalazion. Clinical signs, treatment.

33. Blepharitis, clinic signs and treatment.

34. Dacryocystitis of adults and infants, its etiology, clinical signs, treatment.

35. Inflammatory diseases of the orbit (orbital cellulitis, phlegmon of the orbit, sinus thrombosis), clinical signs and treatment.

36. Methods of examination of the anterior segment of the eye (focal, bifocal illumination, biomicroscopy).

37. Methods of examination of optical environments of the eye.

38. Clinical signs and methods of treatment of acute inflammation of the conjunctiva.

39. Clinical manifestations, etiology and methods of treatment of chronic conjunctivitis.

40. Adenoviral conjunctivitis. Their clinic signs and treatment.

41. Diphtheria of the eye, its clinical signs, diagnosis, treatment.

42. Classification of keratitis. General principles of their treatment. Clinical signs and consequences of keratitis.

43. Corneal ulcer, its clinical signs and treatment.

44. Stromal keratitis. Clinical signs and treatment.

45. Herpetic keratitis. Their diagnosis and treatment.

46. Serous iridocyclitis. Its clinical features, causes, diagnosis.

47. Clinical signs of fibrinous iridocyclitis, etiology, pathogenesis, methods of treatment. Complications and outcomes of iridocyclitis.

48. Glaucoma, classification of glaucoma. Methods of early diagnosis of glaucoma. The value of dispensary examination of patients with glaucoma.

49. Clinical types of primary glaucoma, treatment.

50. Differential diagnosis of primary glaucoma and cataracts.

51. Acute attack of glaucoma, its clinical signs. Differential diagnosis with iridocyclitis.

52. Emergency care for an acute attack of glaucoma.

53. Secondary glaucoma, its causes, treatment, clinical signs.

54. Congenital glaucoma, its causes, clinical signs and treatment.

55. Anomalies of the lens position, diagnosis of complications, treatment.

56. Congenital cataract, clinical signs, diagnosis, methods of treatment.

57. Stages of senile cataract. Diagnosis and treatment.

58. Diagnosis and conservative treatment of the initial stage of senile cataracts.

59. Traumatic cataract. Clinical features, complications, surgical treatment.

60. Complicated cataract, its causes, treatment clinical signs.

61. Secondary cataract, its clinical signs, causes, surgical treatment.

62. Aphakia, its symptoms, correction.

63. The main conditions of binocular vision. The importance of binocular vision in choosing a profession.

64. Comitant strabismus, diagnosis, types.

65. Incomitant strabismus, clinical diagnosis.

66. Paralytic strabismus, clinical diagnosis.

67. Principles of treatment of comitant strabismus.

68. Signs of penetrating injuries of the eyeball. Emergency care for them.

69. Penetrating eye injuries complicated by the presence of a foreign body. Methods of localization of a foreign body in the eye.

70. Principles of removal of intraocular foreign bodies at penetrating eye injuries.

71. Complications of penetrating injuries.

72. Endophthalmitis and panophthalmitis, metallosis, sympathetic inflammation, their clinic, prevention, treatment.

73. Contusions of the eyeball, their manifestations and treatment.

74. Foreign bodies of the cornea and emergency care for them.

75. Electroophthalmia, its clinical manifestations and first aid.

76. Chemical eye burns, clinic, emergency care.

77. Thermal eye burns, clinical signs, emergency care.

78. Intraocular tumors, clinical course, treatment.

79. Detection of aggravation and simulation. Control methods for detecting visual acuity.

80. Establishment of a disability group due to visual impairment.

81.Ophthalmoscopy. The types.

82. Picture of a normal fundus.

83. Clinic of optic neuritis. Causes, differential diagnosis with congestive optic disc.

84. Ophthalmoscopic picture of congestive optic disc. Its importance in the diagnosis of brain tumors.

85. Changes of the fundus in hypertension.

86. Changes in the fundus and diabetes mellitus.

87. Changes of the fundus in blood diseases.

88. Changes in the fundus of AIDS.

89. Retinal detachment, etiology, clinic, treatment.

90. Acute disorders of retinal circulation. Causes, clinic, treatment.

Scoring policy.

Grade for the discipline (total mark in average).

The grade in the discipline is defined as the arithmetic mean in average of the marks for all semesters during which the discipline was studied, which are translated into a 120-point scale ECTS (table) with the addition of points obtained directly on the differentiated test.

Rating on a 200-point scale	Rating on the ECTS scale	Rating for four-point (national) scale
180–200	A	Excellent
160–179	B	Good
150–159	C	Good
130–149	D	Satisfactorily
120–129	E	Satisfactorily
Less than 120	F, Fx	Unsatisfactorily

The maximum number of points that a student can score for studying the discipline - 200 points, including the maximum number of points for current educational activities - 120 points, as well as the maximum number of points according to the results of differentiated credit - 80 points. The minimum number of points is 120, including the minimum current educational activity - 70 and the results of differentiated credit - 50 points.

The grade in the discipline is only given to students who have passed all practical classes and exams. If the exam is not passed, the dates of re-setting during the holidays are set, until the beginning of the next semester.

Students who have not been admitted to the exam or have not passed it have the right to liquidate the current academic debt and retake the exam within the current semester, as well as within the approved schedule for two weeks during winter or summer vacation after the relevant semester, or academic year.

Educational literature

Main

1. Eye diseases. Edited by GD Zhaboyedov, MM Sergienko, K .: "Health", 1999.-310 p.

2. Therapeutic ophthalmology. Handbook of Ophthalmology. Edited by GD Zhaboyedov, AO. Vatchenko, K .: "Health", 2003.-133 p.

3. Wills Clinic. Diagnosis and treatment of eye diseases. Edited by Douglas Callum and Benjamin Chang. Medicine of the world - 1999-492 p.

4. Pediatric ophthalmology. D. Taylor, K. Hoyt. Translated from English. Moscow Binom Publishing House. 2002 - 247 p.

5. Ophthalmology. Wilhelm Happe. Translated from German. Moscow: Medpress-inform, 2004 – 352 p.

6. Eye diseases: Textbook / Ed. Kopaeva VG M .: "Medicine". 2002.-560 p.

Suplementary

1. Eye diseases and injuries EE Somov "St. Petersburg". 2002 - 236 p.

2. Clinical ophthalmology / Ed. Jack J.

Information resources - KhNMU repository

Rules of course

To achieve the goals of training and successfully complete the course, it is necessary: from the first day to join the work; attend lectures regularly; read the material in advance, before its consideration in a practical lesson; not to be late and not to miss classes; come to the department dressed in a medical gown, have changeable shoes, carry a notebook, pen; perform all necessary tasks and work every day; be able to work with a partner or in a group; ask for help and get it when you need it.

Requirements of teachers. Be sure to take into account the student's attendance and activity during the practical session; inadmissibility of absences and delays for classes; it is not allowed to use a mobile phone or other mobile devices during the lesson; write-off

and plagiarism are not allowed; untimely performance of the task. Omissions of practical classes for a non-valid reason are NOT allowed.

Academic mobility. During the study of the discipline "Ophthalmology" academic mobility, interchangeability of credit credits (1 credit - 30 hours) is provided. Students can discuss different tasks, but their performance is strictly individual.

Missed of practical classes

Missed of practical classes are worked out hour by hour to the teacher of group or the next teacher. Admission to the practice of missed classes is carried out in the following order:

1) Within a month from the moment of the missed lesson (regardless of the reason) - without the permission of the deans' offices;

2) Within a period of more than a month from the date of the missed lesson - with the permission of the deans of KhNMU and with the registration of "Directions for practice".

Reception of retaking classes and consultations are held daily from 15.00 – 17.00, and on Saturdays from 9.00 to 15.00 in accordance with the "Regulations on the procedure for students to study" from 07.12.2015 № 415.

Students with special needs should meet with the teacher or warn him before the start of classes, at the request of the student it can be done by the head of the group. If you have any questions, please contact the teacher.

Plagiarism, academic integrity. You are not allowed to write off, use any kind of software, tips, use a mobile phone or other electronic gadgets during the lesson.

Conduct in the auditorium. The auditorium for lectures on the subject "Ophthalmology" is located at 7 Danilevskoho Street, in one of the medical buildings of the Kharkiv Regional Clinical Hospital. The auditorium is located on the second floor of the building, next to the adult ophthalmology department located here, where therapeutic and surgical treatment of patients is carried out directly. Features of the location of the audience require compliance with certain rules of conduct:

1) Entry into the audience is carried out in the presence of changeable shoes or boot covers;

3) Communication between students is conducted in the correct form and not loudly;

4) 3) Smoking during the lecture's break is forbidden.

5) Students are not allowed to be late for the lecture.

The Head of the Ophthalmology Department, professor **P. A. Bezditko**