Khanty-Mansiysk Autonomous Okrug-Ugra
"Surgut State University"

Approved by
Deputy Rector for Academic
_____E.V. Konovalova

"16" June 2022, Record No.6

Ophthalmology

Syllabus

Department **Surgical diseases**

Curriculum s310501-ЛечДелоИн-21-1.pli.xml
Specialty 31.05.01 General Medicine

Qualification **General Practitioner**

Form of education **Full-time**

Total (in credits) **3**

Total academic hours	108	Control:
including:		Exam, 9th term
Classes	64	
Self-study	17	
Control hours	27	

Course outline in terms

Academic year (Term)	**9(5.1)**		Total	
Weeks	17			
Types of classes	Cur	Syl	Cur	Syl
Lectures	16	16	16	16
Practical	48	48	48	48
Total classes	64	64	64	64
Self-study	17	17	17	17
Control hours	27	27	27	27
Total	108	108	108	108

The Syllabus is compiled by:
PhD in Medical Sciences (Oftalmologist), Associate Professor, Santoro E.U. _____

The Syllabus
Ortalmology

Developed in accordance with Federal State Educational Standard:

Federal State Educational Standard of higher education in the specialty 31.05.01 General medicine (Order of the Ministry of Education and Science of the Russian Federation on August, 12, 2020 №988)

Based on the Curriculum:
31.05.01 GENERAL MEDICINE
Specialization: General Medicine
Approved by the Academic Council of Surgut State University, "16" June 2022, Record No.6

The Syllabus was approved by the department
Surgical diseases

Head of Department, Doctor of Medicine, Professor Darvin V.V.

1. COURSE OBJECTIVES	
1.1	The aim of the study of ophthalmology is the formation of scientific knowledge and on their basis the ability to detect deviations in the state of the organ of vision from the age norm in people of different ages, to prevent and provide first aid to patients with ophthalmic pathology.

2. COURSE OVERVIEW	
Course code (in curriculum)	Б1.О.04.33
2.1	**Assumed background:**
2.1.1	Normal physiology
2.1.2	Anatomy
2.1.3	Microbiology, Virology
2.2	**Prerequisite courses and practice:**
2.2.1	Obstetrics
2.2.2	Endocrinology
2.2.3	Hospital Therapy,
2.2.4	Hospital surgery, pediatric surgery
2.2.5	Dermatovenereology
2.2.6	Infectious disease
2.2.7	Outpatient therapy
2.2.8	Clinical pharmacology

3. COMPETENCIES UPON COMPLETION OF THE COURSE (MODULE)
PC - 1.1: Demonstrates knowledge in etiology, pathogenesis, diagnostic criteria (clinical - subjective, physical, laboratory, instrumental, identifies the patient's common pathological conditions, symptoms, disease syndromes and diagnoses nosological forms according to the International Statistical Classification of Diseases and Related Health Problems, X - XI revisions
PC - 1.2: Carries out diagnostics, evaluates the prognosis (short-, medium- and long-term course) of the disease, identifies acute complications and complications of chronic diseases
PC - 3.1: Examines the patient (handle the patient's complaints, anamnesis, physical data based on the examination results, determines the necessary examination plan, evaluates the parameters of laboratory, instrumental, pathological and anatomical and other methods in order to diagnose diseases, assesses the prognosis (short-, medium- long-term) of its course and outcomes
PC - 3.2: Makes an inital and clinical diagnosis in accordance with the International Statistical Classification of Diseases and Health Problems X - XI revisions and current clinical classifications
PC - 3.3: Carries out early and differential diagnostics of diseases
PC - 3.4: Provides routing and management of patients based on the current legislation (standards, procedures for the provision of medical care, Clinical guidelines)
PC - 5.1: Demonstrates knowledge of the mechanisms and methods applied in pharmacotherapy, medical nutrition, medical devices and methods of non-drug treatment, palliative and personalized medical care
PC - 5.2: Provides various categories of patients with outpatient treatment, treatment in hospitals and high-tech medical care (HMC) centers applying drugs, medical devices and medical nutrition, according to clinical pattern and current procedures, standards of medical care, Clinical guidelines (treatment protocols)
PC - 5.4: Demonstrates knowledge of side effects of drugs, methods and duration of their use; assesses the effectiveness and safety of pharmacotherapy, medical nutrition and non-drug treatment, medical nutrition of palliative care.
PC - 8.2: Keeps medical records, including the electronic format

By the end of the course students must:

3.1	**know:**
3.1.1	- etiology, pathogenesis and prevention of the most common eye diseases;
3.1.2	- modern classification of ophthalmic diseases;

3.1.3	- clinical picture, features of the course and possible complications of the most common ophthalmic diseases occurring in a typical form in different age groups;
3.1.4	- methods of diagnosis of diseases of the visual organ, including modern methods of clinical, laboratory, instrumental examination of patients;
3.1.5	- methods of diagnosis of diseases of the visual organ, including modern methods of clinical, laboratory, instrumental
3.1.6	- modern method of treatment of ophthalmic pathology.
3.2	**be able to:**
3.2.1	- to make a preliminary diagnosis of common eye diseases and injuries;
3.2.2	- provide first aid and make a decision on the subsequent medical tactics in case of: eye inflammations, eye burns, blunt and penetrating eye injuries;
3.2.3	- to identify the relationship of the General pathological process in the body of the patient with diseases of the organ of vision and to give medical advice;
3.2.4	- to establish on the basis of knowledge of epidemiology, the role of environmental factors, genetic and social factors, modern achievements of ophthalmology necessary measures to prevent the occurrence of epidemic outbreaks of infectious diseases, damage to the visual organ and the development of severe disability-blindness;
3.2.5	- to write a prescription for glasses for myopia, hypermetropia, presbyopia, aphakia;
3.2.6	- drops, ointment lay in the conjunctival cavity, rinse the conjunctival cavity;
3.2.7	- to remove a superficial foreign body from conjunctiva and cornea;
3.2.8	- apply monocular and binocular aseptic dressings;
3.2.9	- draw up medical documentation (medical history, outpatient card).
3.3	**have skills of:**
3.3.1	- the method of inspection of all departments of the conjunctiva, the eversion of the upper eyelid;
3.3.2	- methods of examination and palpation of the lacrimal SAC area, therapeutic massage of the lacrimal SAC;
3.3.3	- methodology for the investigation of intraocular pressure by palpation;
3.3.4	- the method of side lighting for inspection of the anterior segment of the eye;
3.3.5	- method of investigation of transparency of intraocular media by passing light;
3.3.6	- methodology for determining the size, curvature, sensitivity and integrity of the cornea;
3.3.7	- methods of determining the acuity and color vision in people of different ages;
3.3.8	- the method of study of the field of vision approximately on the perimeter and the control method;
3.3.9	- method of determining clinical refraction by subjective methods.
3.3.10	- methods of General clinical examination;
3.3.11	- interpretation of the results of laboratory and instrumental diagnostic methods;
3.3.12	- algorithm of preliminary and detailed clinical diagnosis.

4. STRUCTURE AND CONTENTS OF THE COURSE (MODULE)

Class Code	Topics /Class type	Term / Academic year	Academic hours	Competences	Literature	Interactive	Notes
	Topics № 1 Modern diagnostic and therapeutic technologies in ophthalmology.						
1.1	Visual functions and age dynamics of their development. / lecture/	9	2	PC-1.1; PC-1.2 PC-3.1; PC-3.2 PC-3.3; PC-3.4 PC-5.1; PC-5.2 PC-5.4; PC-8.2	L1.1 L2.1	0	
1.2	Physiological optics, refraction. Accommodation and their age characteristics. / lecture/	9	2	PC-1.1; PC-1.2 PC-3.1; PC-3.2 PC-3.3; PC-3.4 PC-5.1; PC-5.2 PC-5.4; PC-8.2	L1.1 L2.1	0	
1.3	Clinical anatomy of the organ of vision. / lecture/	9	2	PC-1.1; PC-1.2 PC-3.1; PC-3.2 PC-3.3; PC-3.4 PC-5.1; PC-5.2 PC-5.4; PC-8.2	L1.1 L2.1	0	

1.4	Clinical anatomy of the organ of vision. / practical classes/	9	4	PC-1.1; PC-1.2 PC-3.1; PC-3.2 PC-3.3; PC-3.4 PC-5.1; PC-5.2 PC-5.4; PC-8.2	L1.1 L2.1	0	oral quiz, tests, case – study
1.5	Visual functions and age dynamics of their development. / practical classes/	9	4	PC-1.1; PC-1.2 PC-3.1; PC-3.2 PC-3.3; PC-3.4 PC-5.1; PC-5.2 PC-5.4; PC-8.2	L1.1 L2.1	0	oral quiz, tests, case – study
1.6	Physiological optics, refraction. Accommodation and their age characteristics. / practical classes/	9	4	PC-1.1; PC-1.2 PC-3.1; PC-3.2 PC-3.3; PC-3.4 PC-5.1; PC-5.2 PC-5.4; PC-8.2	L1.1 L2.1	0	oral quiz, tests, case – study, Practical skills
1.7	Binocular vision and its pathology. / practical classes/	9	4	PC-1.1; PC-1.2 PC-3.1; PC-3.2 PC-3.3; PC-3.4 PC-5.1; PC-5.2 PC-5.4; PC-8.2	L1.1 L2.1	0	oral quiz, tests, case – study
1.8	Clinical anatomy of the visual organ / self-study/	9	6	PC-1.1; PC-1.2 PC-3.1; PC-3.2 PC-3.3; PC-3.4 PC-5.1; PC-5.2 PC-5.4; PC-8.2	L1.1 L2.1	0	essay
1.9	Physiological optics, refraction. Accommodation and their age characteristics / for self-study/	9	6	PC-1.1; PC-1.2 PC-3.1; PC-3.2 PC-3.3; PC-3.4 PC-5.1; PC-5.2 PC-5.4; PC-8.2	L1.1 L2.1	0	essay
	Topics 2 diagnostic and Treatment program of the diseases of the anterior segment of the eye.						
2.1	Pathology of the choroid. / lecture/	9	2	PC-1.1; PC-1.2 PC-3.1; PC-3.2 PC-3.3; PC-3.4 PC-5.1; PC-5.2 PC-5.4; PC-8.2	L1.1 L2.1	0	
2.2	Pathology of the lens. / lecture/	9	2	PC-1.1; PC-1.2 PC-3.1; PC-3.2 PC-3.3; PC-3.4 PC-5.1; PC-5.2 PC-5.4; PC-8.2	L1.1 L2.1	0	
2.3	Pathology of eyelids and lacrimal organs. Pathology of the conjunctiva / practical classes/	9	4	PC-1.1; PC-1.2 PC-3.1; PC-3.2 PC-3.3; PC-3.4 PC-5.1; PC-5.2 PC-5.4; PC-8.2	L1.1 L2.1	0	oral quiz, tests, case – study
2.4	Pathology of the cornea sclera. / practical classes/	9	4	PC-1.1; PC-1.2 PC-3.1; PC-3.2 PC-3.3; PC-3.4 PC-5.1; PC-5.2 PC-5.4; PC-8.2	L1.1 L2.1	0	oral quiz, tests, case – study
2.5	Pathology of the choroid. / practical classes/	9	4	PC-1.1; PC-1.2 PC-3.1; PC-3.2 PC-3.3; PC-3.4 PC-5.1; PC-5.2 PC-5.4; PC-8.2	L1.1 L2.1	0	oral quiz, tests, case – study

2.6	Pathology of the lens. / practical classes/	9	4	PC-1.1; PC-1.2 PC-3.1; PC-3.2 PC-3.3; PC-3.4 PC-5.1; PC-5.2 PC-5.4; PC-8.2	L1.1 L2.1	0	oral quiz, tests, case – study, Practical skills
2.7	Pathology of the lens. / self-study/	9	5	PC-1.1; PC-1.2 PC-3.1; PC-3.2 PC-3.3; PC-3.4 PC-5.1; PC-5.2 PC-5.4; PC-8.2	L1.1 L2.1	0	essay
	Topics № 3 Treatment and diagnostic program of diseases of the posterior segment of the						
3.1	Glaucomas. / lecture	9	2	PC-1.1; PC-1.2 PC-3.1; PC-3.2 PC-3.3; PC-3.4 PC-5.1; PC-5.2 PC-5.4; PC-8.2	L1.1 L2.1	0	
3.2	Pathology of retina and optic nerve / lecture/	9	2	PC-1.1; PC-1.2 PC-3.1; PC-3.2 PC-3.3; PC-3.4 PC-5.1; PC-5.2 PC-5.4; PC-8.2	L1.1 L2.1	0	
3.3	Damage to the organ of vision / lecture/	9	2	PC-1.1; PC-1.2 PC-3.1; PC-3.2 PC-3.3; PC-3.4 PC-5.1; PC-5.2	L1.1 L2.1	0	
3.4	Glaucoma / practical classes/	9	4	PC-1.1; PC-1.2 PC-3.1; PC-3.2 PC-3.3; PC-3.4 PC-5.1; PC-5.2 PC-5.4; PC-8.2	L1.1 L2.1	0	oral quiz, tests, case – study
3.5	Pathology of the retina and optic nerve. / practical classes	9	4	PC-1.1; PC-1.2 PC-3.1; PC-3.2 PC-3.3; PC-3.4 PC-5.1; PC-5.2 PC-5.4; PC-8.2	L1.1 L2.1	0	oral quiz, tests, case – study
3.6	Damage to the organ of vision / practical classes/	9	4	PC-1.1; PC-1.2 PC-3.1; PC-3.2 PC-3.3; PC-3.4 PC-5.1; PC-5.2 PC-5.4; PC-8.2	L1.1 L2.1	0	oral quiz, tests, case – study, Practical skills
3/7	Final lesson / practical classes	9	4	PC-1.1; PC-1.2 PC-3.1; PC-3.2 PC-3.3; PC-3.4 PC-5.1; PC-5.2 PC-5.4; PC-8.2	L1.1 L2.1	0	case history
3.7	Glaucoma /self-study/	9	4	PC-1.1; PC-1.2 PC-3.1; PC-3.2 PC-3.3; PC-3.4 PC-5.1; PC-5.2 PC-5.4; PC-8.2	L1.1 L2.1	0	essay
3.8	Exam	9	27	PC-1.1; PC-1.2 PC-3.1; PC-3.2 PC-3.3; PC-3.4 PC-5.1; PC-5.2 PC-5.4; PC-8.2	L1.1 L2.1	0	oral quiz, Practical skills

5. ASSESSMENT TOOLS
5.1. Points for oral quiz, tests, and case – study
Supplement 1
5.2. Topics for essay
Supplement 1

5.3. Fund of assessment tools
Supplement 1
5.4. List of assessment tools
oral quiz, tests, case – study, essay, Practical skills

6. COURSE (MODULE) RESOURCES				
6.1. Recommended Literature				
6.1.1. Core				
	Authors	Title	Title	Quantity
L1.1	L. L. Kolesnikov, D. B. Nikitiuk, S. V. Klochkova, I. G. Stelnikova	Textbook of Human Anatomy. In 3 vol. Vol. 3. Nervous system. Esthesiology - - 216 p. Режим доступа: https://www.studentlibrary.ru/book/ISBN9785970458112.html	M. :GEOTAR-Media, 2020	1
6.1.2. Supplementary				
	Authors	Title	Title	Quantity
L2.1	Лапкин М.М., Трутнева Е.А	Избранные лекции по нормальной физиологии = Selected Lectures on Normal Physiology [Электронный ресурс]: учебное пособие на русском и английском языках / Режим доступа: https://www.studentlibrary.ru/book/ISBN9785970446782.html	- М. : ГЭОТАР-Медиа, 2019	1

6.2. Internet resources	
I1	Ophthalmology http://www.swetswise.com
I2	Ophthalmology http://dc.rsl.ru
I3	Ophthalmology http://www.scsml.rssi.ru
I4	Ophthalmology www.studmedlib.ru
6.3.1 Software	
6.3.1.1	Operational system Microsoft, applied programs pack Microsoft Office
6.3.2 Information Referral systems	
6.3.2.1	http://www.garant.ru Legal information portal Garant.ru
6.3.2.2	http://www.consultant.ru/ Legal Reference System Consultant Plus

8. COURSE MANUALS
Supplement 2,3,4

Supplement 1

ASSESSMENT TOOLS
Syllabus

OPHTHALMOLOGY

Qualification	Specialty
Specialty	31.05.01 General Medicine
Form of education	Full-time
Designer	surgical diseases
Department	
Graduate Department	INTERNAL DISEASES

Sample tasks and tests

Stage I: Formative assessment.

1.1. Points for oral quiz

Topics 1. Modern diagnostic and therapeutic technologies in ophthalmology.

1. List the main visual functions.
2. What is the classification of congenital disorders of color perception.
3. List the factors contributing to the acuity of Central vision.
4. What are the methods of determining the color perception.
5. What are the existing types of livestock.

Topics 2. Treatment and diagnostic program of diseases of the anterior segment of the eye.

1. The cross-section of the eyelids.
2. List the forms of blepharitis.
3. List the symptoms of eyelid abscess.
4. List the main symptoms of dacryocystitis.
5. List the methods of investigation of patency of the tear ducts.

Topics 3. Treatment and diagnostic program of diseases of the posterior segment of the eye.

1. List the methods of examination of the lens.
2. The structure of the lens.
3. The diagram of the optical slice of the lens and mark the optical zones.
4. Types of congenital cataracts.
5. List the stage of senile cataract.

1.2. Case – study for formative assessment.

Example case study (with keys)

The patient suffered from viral hepatitis. Lately complains of the decrease of twilight vision. Status ophtalmicus: on the conjunctiva of both eyes, the limb has single xerotic plaques. Another pathology from the anterior and posterior segment of the eye was not revealed. What disease should I think about first? What additional research to conduct? Prescribe treatment.

Keys: DS: functional (symptomatic) hemeralopia and xerosis of the conjunctiva. The diagnosis justifies anamnesis, complaints of decreased twilight vision, plaques in the conjunctiva. Adaptometry is necessary. Therapy: therapeutic doses of vitamins A, B_1,B_2.

1.3. Sample tests (with keys) for formative assessment.

Example test (with keys)

1) THE BLOOD SUPPLY OF IRIS AND CILIARY BODY PARTICIPATE
    a) anterior ciliary arteries, posterior short ciliary arteries;

b) anterior ciliary arteries, posterior long ciliary arteries;
c) anterior ciliary arteries, posterior long ciliary arteries;
d) the branches of the conjunctival vessels;

Keys: b

1.4. List of essay topics (for self-study).

Topics №1:
1. Methods of functional diagnostics in ophthalmology.
2. Optical system of the eye.
3. Modern methods of correction of refractive errors.
4. Changes in the fields of vision in neurological disorders.
5. Ultrasound diagnostics in ophthalmology.

Topics №2:
1. Allergic conjunctivitis.
2. Dry eye syndrome.
3. Corneal opacity. The possibility of keratoplasty.
4. The main forms of iridocyclitis.
5. Modern trends in the treatment of iridocyclitis.

Topics №3:
1. Early diagnosis of glaucoma.
2. Changes in the fundus in hypertensive disease.
3. Acute obstruction of the retinal vessels.
4. Modern methods of diagnosis and treatment of eye tumors.
5. Lasers in ophthalmology.

1.5. List of practical skills

1) the method of inspection of all departments of the conjunctiva, the eversion of the upper eyelid;
2) methods of examination and palpation of the lacrimal SAC area, therapeutic massage of the lacrimal sac;
3) methodology for the investigation of intraocular pressure by palpation;
4) the method of side lighting for inspection of the anterior segment of the eye;
5) method of investigation of transparency of intraocular media by passing light;
6) methodology for determining the size, curvature, sensitivity and integrity of the cornea;
7) methods of determining the acuity and color vision in people of different ages;
8) the method of study of the field of vision approximately on the perimeter and the control method;
9) method of determining clinical refraction by subjective methods.
10) methods of General clinical examination;
11) interpretation of the results of laboratory and instrumental diagnostic methods;
12) algorithm of preliminary and detailed clinical diagnosis.

Stage: Midterm assessment (examination)

Midterm assessment is carried out in the form of exam. Tasks for the exam include two theoretical points and one problem.

Tasks for competence assessment «Knowledge»	**Task type**
List of theoretical points 1. How is the formation of the organ of vision in utero? 2. What are the stages of evolutionary development of the organ of vision? 3. What is included in the peripheral part of the visual analyzer?	**-theoretical**

4. What neurons does the retina consist of?
5. What is the fundus?
6. What are the features of the histological structure of the Central fossa in a newborn?
7. What parts of the visual pathway do you know?
8. What are the features of the structure of the choroid?
9. What are the functions of the iris, ciliary body and choroid?
10. What properties of the cornea do you know?
11. What histological layers of the cornea do you know?
12. How is the exchange of intraocular fluid?
13. What vessels provide blood supply to the eyeball?
14. What is the difference between the structure of the orbit of a newborn from the structure of the orbit of an adult?
15. What vessels and nerves pass through the upper orbital fissure?
16. What is the syndrome verhnelenskoe the cracks?
17. What are the main holes of the eye socket you know?
18. What features have the veins of the orbit?
19. What is the layered structure of the eyelids?
20. What are the functions of the conjunctiva, you know?
21. In which departments are divided lacrimal apparatus?
22. What are the main functions of tears?
23. What oculomotor muscles do you know, their function and innervation?
24. What is visual acuity?
25. What is the formula for visual acuity?
26. In what units is visual acuity measured?
27. How is the visual acuity test conducted?
28. How is the study of visual acuity less than 0.1?
29. What are the features of the study of visual acuity in a child?
30. What is peripheral vision and its importance in human life?
31. What types of perimetry do you know?
32. How is the study of peripheral vision control method?
33. How is the study of peripheral vision on the arc projection perimeter?
34. What are the options for narrowing the peripheral boundaries of the field of view you know and their possible causes?
35. What is scotoma?
36. How are scotomas classified?
37. What areas of the fundus give physiological scotomas?
38. What is color perception?
39. What are the main qualities of color?
40. How is the methodology of the study of color perception at the Rabkin polychromatic tables?
41. What is light perception?
42. What is day-blindness and its types?
43. What is the mechanism of binocular vision?
44. How is the method of determining binocular vision on a four-point color test?
45. What are the symptoms of concomitant strabismus?
46. What are the manifestations of paralytic strabismus?
47. How is the determination of the angle of strabismus on Girshberg?
48. What methods of treatment of strabismus do you know?
49. What are the differences in clinical and physical refraction you know?
50. What is the refractive power of the optical system of the eyes of an adult and a newborn?
51. What types of clinical refraction do you know?
52. What are the methods for determining clinical refraction?
53. What is astigmatism?
54. What types of astigmatism do you know?
55. What is aniseikonia?
56. What is characterized by myopic refraction?
57. What are the features of hypermetropic refraction?
58. What are the features of emmetropic refraction?
59. What measures of prevention and treatment of progressive myopia do you know?
60. What are the possible complications of progressive myopia?
61. What are the modern methods of myopia correction?
62. What are the possible complications of hypermetropia?

63. What are the modern methods of correction of hypermetropia? 64. What is the characteristic of spasm of accommodation clinic? 65. What is the characteristic of the clinic of paralysis of accommodation? 66. What is the characteristic of presbyopia clinic? 67. What is accommodation? 68. What is the methodology of accommodation research? 69. What are the methods for determining the nearest and further points of view? 70. What is the method of determining the type and strength of optical glass? 71. How to write prescriptions for glasses with different types of ametropia? 72. What is the histological structure of the century? 73. What determines the easy occurrence and spread of edema, bruising and local inflammatory processes of the eyelids? 74. What are the anomalies of the eyelids you know, their impact on the function of the organ of vision? 75. What are the distinctive features of barley and chalazion? 76. What are the distinctive features of abscess and phlegmon of the century? 77. What are the methods of treatment of inflammatory diseases of the eyelids? 78. What types of eyelid tumors do you know? 79. What features of the treatment of tumors of the eyelids you know? 80. What are the main parts of the lacrimal organs? 81. What are the main departments are divided tear pathways? 82. What are the clinical manifestations of dacryoadenitis and its treatment? 83. What are the cardinal signs of dacryocystitis in newborns? 84. What are the possible complications of dacryocystitis? 85. What are the main stages of treatment of dacryocystitis? 86. What are the main methods of investigation in the pathology of the tear ducts? 87. What are the anatomical and physiological characteristics inherent in the conjunctiva? 88. What are the main functions inherent in the conjunctiva? 89. What are the main complaints of a patient with conjunctivitis? 90. What are the General objective signs characteristic of conjunctivitis? 91. What infectious diseases can cause conjunctivitis? 92. What diseases can cause chronic conjunctivitis? 93. What are the additional research methods that are used to establish the etiological diagnosis of conjunctivitis? 94. What is the nature of therapeutic measures for conjunctivitis, depending on the etiology? 95. What are the stages of trachoma? 96. What are the complications and outcomes of trachoma? 97. What methods are used to examine the conjunctiva? 98. .	
Tasks for competence assessment «Abilities»	**Task type**
1.2 List of practical skills 1) the method of inspection of all departments of the conjunctiva, the eversion of the upper eyelid; 2) methods of examination and palpation of the lacrimal SAC area, therapeutic massage of the lacrimal sac; 3) methodology for the investigation of intraocular pressure by palpation; 4) the method of side lighting for inspection of the anterior segment of the eye; 5) method of investigation of transparency of intraocular media by passing light; 6) methodology for determining the size, curvature, sensitivity and integrity of the cornea; 7) methods of determining the acuity and color vision in people of different ages; 8) the method of study of the field of vision approximately on the perimeter and the control method; 9) method of determining clinical refraction by subjective methods. 10) methods of General clinical examination; 11) interpretation of the results of laboratory and instrumental diagnostic methods; 12) algorithm of preliminary and detailed clinical diagnosis. .	-practical

METHODOLOGICAL GUIDELINES FOR LEARNING OUTCOMES ASSESSMENT

Stage: Formative assessment

Formative assessment is a regular checking of student academic progress during the academic term. It is performed in various oral and written forms (quizzes, essays, checking of home assignments, compilation of cases, self-study, colloquiums, and testing). During formative assessment, the teacher monitors the level of student's academic progress according to the curriculum identifying lack of knowledge, or misunderstanding.

The tasks of formative assessment are aligned with the Curriculum and Syllabus.

1. Guidelines for assessing the oral quiz:

In assessing the teacher takes into account:

- knowledge and understanding of the subject matter;
- activity during the class;
- consistency of presentation;
- argumentation of the answer, the level of independent thinking;
- ability to link theoretical and practical principles with future professional activity.

Assessment criteria:

The results are assessed in a four-grading scale: "excellent", "good", "satisfactory", "unsatisfactory".

Type of the task	Assessed competences	Assessment criteria	Grade
Oral quiz	PC-1.1; PC-1.2 PC-3.1; PC-3.2 PC-3.3; PC-3.4 PC-5.1; PC-5.2 PC-5.4; PC-8.2	The student demonstrates a comprehensive, systematic and in-depth knowledge of the academic material; has learned the required and additional resources. The student demonstrates a consistent and thorough understanding of the required knowledge, concepts, skills of the material learned, and their significance for future profession.	Excellent
	PC-1.1; PC-1.2 PC-3.1; PC-3.2 PC-3.3; PC-3.4 PC-5.1; PC-5.2 PC-5.4; PC-8.2	The student demonstrates a comprehensive knowledge of the academic material; has learned the required and additional resources. The student demonstrates a consistent understanding of the required knowledge, concepts, skills of the material learned, but makes minor errors.	Good
	PC-1.1; PC-1.2 PC-3.1; PC-3.2 PC-3.3; PC-3.4 PC-5.1; PC-5.2 PC-5.4; PC-8.2	The student demonstrates basic knowledge necessary for further study; has learned basic recommended literature. The student operates with inaccurate formulating, has difficulties in the independent answers, makes significant mistakes but is able to correct them under the guidance of a teacher.	Satisfactory
	PC-1.1; PC-1.2 PC-3.1; PC-3.2 PC-3.3; PC-3.4 PC-5.1; PC-5.2 PC-5.4; PC-8.2	The student does not know the obligatory minimum or demonstrates gaps in knowledge of the academic material, makes major mistakes or gives completely wrong answers.	Unsatisfactory

2. Guidelines for case-study assessment:

Assessment criteria:

The results are assessed in a four-grading scale: “excellent”, “good”, “satisfactory”, “unsatisfactory”.

Type of the task	Assessed competences	Assessment criteria	Grade
Case - study	PC-1.1; PC-1.2 PC-3.1; PC-3.2 PC-3.3; PC-3.4 PC-5.1; PC-5.2 PC-5.4; PC-8.2	The student correctly and solves the case-study task, demonstrating deep knowledge. There are no errors in logical reasoning and solution, the problem is solved in a rational way. The right answer is obtained, ways are clearly described.	Excellent
		The student correctly solves the case-study task, demonstrating deep knowledge. There are minor errors in logical reasoning and solution, the problem is solved in a rational way. The right answer is obtained, ways are clearly described.	Good
		The student correctly solves the case-study task, demonstrating basic knowledge. There are significant errors in logical reasoning and solution. The student demonstrates difficulties, but still is able to solve a case-study task.	Satisfactory
	PC-1.1; PC-1.2 PC-3.1; PC-3.2 PC-3.3; PC-3.4 PC-5.1; PC-5.2 PC-5.4; PC-8.2	The student incorrectly solves the case-study task, makes significant mistakes. The student is not able to solve a case-study.	Unsatisfactory

3. Guidelines for test assessment.

Assessment criteria:

The results are assessed in a four-grading scale: “excellent”, “good”, “satisfactory”, “unsatisfactory”.

Type of the task	Assessed competences	Assessment criteria	Grade
Test	PC-1.1; PC-1.2 PC-3.1; PC-3.2 PC-3.3; PC-3.4 PC-5.1; PC-5.2 PC-5.4; PC-8.2	80 – 100%	Excellent
		66 – 80%	Good
		46 – 65%	Satisfactory
		Less Than 46%	Unsatisfactory

4. Guidelines for the assessment of practical skills:

Assessment of practical skills based on simulation or participation of third parties may include a demonstration of manipulation, response to the questions of the task;

- assessment of practical skills at the bedside may include a demonstration of detection and / or interpretation of signs, symptoms, methods of examination and treatment;

-the task may include a brief introduction, questions, and list of practical skills for demonstration (according to Curriculum).

In assessing the teacher takes into account:
- knowledge and understanding of the subject matter;

- ability to apply theoretical knowledge into practice;
- the level of formed practical skills;
- reasoning and response style;
- rationale for data selection, additional tests, differential diagnosis and/or choice of treatment, level of clinical thinking.

Assessment criteria:

The results are assessed in a four-grading scale: “excellent”, “good”, “satisfactory”, “unsatisfactory”.

Type of the task	Assessed competences	Assessment criteria	Grade
Practical skills	PC-1.1; PC-1.2 PC-3.1; PC-3.2 PC-3.3; PC-3.4 PC-5.1; PC-5.2 PC-5.4; PC-8.2	The student correctly demonstrates practical skills on the model with a deep knowledge of the material. There are no mistakes in the demonstration and the used technique. The indications and conditions used in this method are clearly described.	Excellent
		The student demonstrates practical skills on the model with slight inaccuracies. There are insignificant mistakes in the demonstration and the used technique. The indications and conditions used in this method are clearly described.	Good
		The student demonstrates practical skills on the model with inaccuracies. There are significant mistakes in the demonstration and the used technique. The indications and conditions used in this method are clearly described.	Satisfactory
		The student demonstrates practical skills on the model with significant mistakes. The indications and conditions used in this method are not described.	Unsatisfactory

5. Essay requirements:

1) Volume: 1500-300 words,
2) Contents structure:

• Introduction
- prove the relevance of the chosen topic
- point out the purpose of the essay
- give a summary of the main points
• Body
- use information obtained from different sources during the research
- show inaccuracy of the opposite points of view
• Conclusion
• List of references

The essay assumes usage of several specialized sources (at least 8-10 publications, monographs, the reference media, manuals). Preference is given to the publications in specialized medical journal and monographs including foreign databases.

Assessment criteria:

The results are assessed in a four-grading scale: “excellent”, “good”, “satisfactory”, “unsatisfactory”.

Type of the task	Assessed competences	Assessment criteria	Grade
Essay	PC-1.1; PC-1.2 PC-3.1; PC-3.2 PC-3.3; PC-3.4	The requirements are fulfilled: - the problem is formulated and its relevance is proved;	Excellent

	PC-5.1; PC-5.2 PC-5.4; PC-8.2	- the various approaches to problem are presented; - conclusions are formulated; - the subject is thoroughly studied; - volume is observed; - design requirements are observed; - correct answers to additional questions are given.	
	PC-1.1; PC-1.2 PC-3.1; PC-3.2 PC-3.3; PC-3.4 PC-5.1; PC-5.2 PC-5.4; PC-8.2	The main are fulfilled with some mistakes: - inaccuracies in material statement; - no logical sequence in judgments; - volume is not observed; - errors in design requirements; - incomplete answers are given to additional questions in the process of defense.	Good
		There are significant deviations from requirements: - topic is only partially explored; - mistakes in contents of the paper; - mistakes in answers to additional questions; - no conclusion is given at the process of defense.	Satisfactory
	PC-1.1; PC-1.2 PC-3.1; PC-3.2 PC-3.3; PC-3.4 PC-5.1; PC-5.2 PC-5.4; PC-8.2	The essay is not prepared at all. The subject of the essay is not explored, significant misunderstanding of a topic.	Unsatisfactory

Stage: midterm assessment (exam)
Methodological guidelines for summative assessment (exam)
Examination is held in the oral form and includes several stages:
- oral quiz (the card includes two questions);
- demonstration of practical

Requirements for the student:
1) regularly attend classes; the absence from classes is not allowed without good reason;
2) in case of absence from classes the student has to work out passed classes;
3) the student has to hand over written papers on time;
4) the student has successfully passed all colloquiums provided by the plan;
5) in case the student has been negatively assessed on the colloquium, he/she should try to pass it again;
6) during the test week the student has to hand over all the tasks (clinical case).

The students are allowed to take examinations in case of all the tests passed and no academic debts (on the basis of the academic records).

The students are not allowed to take examination:
- with unpassed tests on the discipline;
- with missed classes, debts on the discipline;
- with 5 (five) and more debts for the previous term;
- with one debt for earlier terms for more than a year.

Recommendations for the examination assessment:

Type of the task	Assessed competences	Assessment criteria	Grade
Oral quiz	PC-1.1; PC-1.2 PC-3.1; PC-3.2 PC-3.3; PC-3.4 PC-5.1; PC-5.2 PC-5.4; PC-8.2	The student demonstrates comprehensive, systematic and profound knowledge of the subject, can independently perform the tasks provided by the program; who has a good knowledge of the main literature and familiar with the additional literature recommended by the program; demonstrates creative abilities in understanding, statement and use of material of the studied discipline, faultlessly answers not only questions of the card, but also additional questions within the main program, correctly performs a practical task.	Excellent
	PC-1.1; PC-1.2 PC-3.1; PC-3.2 PC-3.3; PC-3.4 PC-5.1; PC-5.2 PC-5.4; PC-8.2	The student has good knowledge of material of the studied discipline; can successfully perform the tasks provided by the program; has a good knowledge of the main literature recommended by the program; answers all questions of the card, correctly performs a practical task, but makes some mistakes.	Good
	PC-1.1; PC-1.2 PC-3.1; PC-3.2 PC-3.3; PC-3.4 PC-5.1; PC-5.2 PC-5.4; PC-8.2	The student demonstrates knowledge of material for further study; can cope with the tasks provided by the program; familiar with the main recommended literature; makes mistakes when performing examination tasks, but has necessary knowledge for their elimination under the supervision of the teacher.	Satisfactory
	PC-1.1; PC-1.2 PC-3.1; PC-3.2 PC-3.3; PC-3.4	The student demonstrates poor knowledge of the material, makes significant mistakes in	Unsatisfactory

	PC-5.1; PC-5.2 PC-5.4; PC-8.2	performance of the tasks provided by the program.	
Practical skills	PC-1.1; PC-1.2 PC-3.1; PC-3.2 PC-3.3; PC-3.4 PC-5.1; PC-5.2 PC-5.4; PC-8.2	The student correctly demonstrates practical skills on the model with a deep knowledge of the material. There are no mistakes in the demonstration and the used technique. The indications and conditions used in this method are clearly described.	Excellent
	PC-1.1; PC-1.2 PC-3.1; PC-3.2 PC-3.3; PC-3.4 PC-5.1; PC-5.2 PC-5.4; PC-8.2	The student demonstrates practical skills on the model with slight inaccuracies. There are insignificant mistakes in the demonstration and the used technique. The indications and conditions used in this method are clearly described.	Good
	PC-1.1; PC-1.2 PC-3.1; PC-3.2 PC-3.3; PC-3.4 PC-5.1; PC-5.2 PC-5.4; PC-8.2	The student demonstrates practical skills on the model with inaccuracies. There are significant mistakes in the demonstration and the used technique. The indications and conditions used in this method are clearly described.	Satisfactory
	PC-1.1; PC-1.2 PC-3.1; PC-3.2 PC-3.3; PC-3.4 PC-5.1; PC-5.2 PC-5.4; PC-8.2	The student demonstrates practical skills on the model with significant mistakes. The indications and conditions used in this method are not described.	Unsatisfactory

Chart of the examination grade assessment:

Tasks	Assessed competences	Grade	Score
Theoretical point № 1 (Oral answer)	PC-1.1; PC-1.2 PC-3.1; PC-3.2 PC-3.3; PC-3.4 PC-5.1; PC-5.2 PC-5.4; PC-8.2	Excellent	5
		Good	4
		Satisfactory	3
		Unsatisfactory	2
Theoretical point № 2 (Oral answer)	PC-1.1; PC-1.2 PC-3.1; PC-3.2 PC-3.3; PC-3.4 PC-5.1; PC-5.2 PC-5.4; PC-8.2	Excellent	5
		Good	4
		Satisfactory	3
		Unsatisfactory	2
		Good	4
		Satisfactory	3
		Unsatisfactory	2
Practical task (Practical skills)	PC-1.1; PC-1.2 PC-3.1; PC-3.2 PC-3.3; PC-3.4 PC-5.1; PC-5.2	Excellent	5
		Good	4
		Satisfactory	3
		Unsatisfactory	2

	PC-5.4; PC-8.2		
Total	PC-1.1; PC-1.2 PC-3.1; PC-3.2 PC-3.3; PC-3.4 PC-5.1; PC-5.2 PC-5.4; PC-8.2	Excellent	13-15
		Good	10-12
		Satisfactory	7-9
		Unsatisfactory	1-6