The Federal State Autonomic Educational Institution of Higher Education
«Peoples' Friendship University of Russia»

Medical Institute

Recommended MCCN

WORK PROGRAM

Name of discipline

OPHTHALMOLOGY

Recommended for education/specialty

31.05.03 Dentistry

The program direction:

Dentistry

1. **Goals and objectives of the discipline**: the purpose of the "Ophthalmology" is the formation of scientific knowledge in ophthalmology and the ability to detect eye pathology, to prevent eye diseases and provide first aid to ophthalmological patients

2. **Place of discipline in the structure of EP of HE:**
Discipline «Ophthalmology» refers to the basic part of Block 1 of the curriculum.
Table №1 shows the previous and subsequent disciplines aimed at the formation of the competencies of the discipline in accordance with the matrix of competencies of EP HE.

Table 1.

Previous and subsequent disciplines aimed at the formation of competencies

Code and name of competences	Previous disciplines	Subsequent disciplines
General professional competences		
GPC-5. Being able to examine patients to determine a diagnosis when solving professional tasks	Biology, Pathophysiology, clinical pathophysiology, Propaedeutics of internal diseases	Outpatient therapy
GPC-9. Being able to assess morpho-functional, physiological conditions and pathological processes in the human body to solve professional tasks	Propaedeutics of internal diseases	Outpatient therapy
Professional competences		
PC-1. Being able to make an examination of a patient in order to determine a diagnosis.	Propaedeutics of internal diseases	Outpatient therapy
PC-6. Being able to analyze and present in public medical information based on evidence-based medicine, participate in scientific research, introduce new methods and techniques aimed at protecting public health	Propaedeutics of internal diseases	Outpatient therapy Other clinical disciplines

3. Requirements to results of the discipline:
The process of studying the discipline is aimed at the formation of the following competencies:

General Professional Competence Category	General Professional Competence Code and Name	General Professional Competence Achievement Indicator Code and Name
Disease diagnosis and treatment	GPC-5. Being able to examine patients to determine a diagnosis when solving professional tasks	GPC-5.6. Referring a patient for a consultation with medical specialists in case there are medical indications in accordance with the current procedures for the provision of medical care, clinical guidelines (treatment protocols) on the provision of dental care taking into account the standards

		GPC-5.8. Conducting differential diagnosis with other diseases/conditions, including the urgent ones.
Bases of fundamental and scientific knowledge	GPC-9. Being able to assess morpho-functional, physiological conditions and pathological processes in the human body to solve professional tasks	GPC-9.3. Determining morpho-functional, physiological states and pathological processes of the human body.
Theoretical and practical foundations of professional activity. Dental disease diagnosis	PC-1. Being able to make an examination of a patient in order to determine a diagnosis.	PC-1.2. Receiving information from patients (their relatives/legal representatives); conducting a questionnaire survey of patients regarding their general health status; identifying concomitant diseases in order to make a preliminary diagnosis.
Research activity	PC-6. Being able to analyze and present in public medical information based on evidence-based medicine, participate in scientific research, introduce new methods and techniques aimed at protecting public health	PC-6.1. Searching for medical information based on evidence-based medicine, interpreting data from scientific publications and/or preparing a presentation to make medical information, the results of scientific research public.

As a result of study of discipline a student must:

Know:

Students must know and use the technique of examination of all parts of the conjunctiva, eversion of the upper eyelid, palpation of the lacrimal sac, therapeutic massage of the lacrimal sac. The methods of the examination of intraocular pressure by palpation, methods of lateral illumination for examination the anterior segment of the eye, evoluate the transparency of intraocular mediums by transmitted light, the method of determining the size, curvature, sensitivity and integrity of the cornea, determining acuity and color vision, examination of the vision fields with the help of perimeter and control method, the detection and determination of the binocular vision. Determining of clinical refraction.

Be handy at:

to make the preliminary diagnosis of common eye diseases and injuries. To provide first medical assistance and to decide on further tactics in tha cases of inflammatory diseases of the eye, eye burns, blunt and penetrating eye injuries, to determine the connection between the common and the pathological process in the patient with diseases of the organ of vision and to give medical recommendations to establish a knowledge of the epidemiology of the role of environmental factors, genetic and social factors of modern achievements of ophthalmology necessary measures to prevent the occurrence of epidemic outbreaks of infectious diseases, damage of the visual organ and of developing severe forms of disability from blindness.

Manage:
main methods of examination of the visual organ. Prescription glasses for myopia, hypermetropia, presbyopia, aphakia. To instill drops, ointment lay in the conjunctival cavity, rinse conjunctival cavity, to remove superficial foreign body from conjunctiva and cornea, to make monocular and binocular impose aseptic bandage, to full medical documentation (medical history, patient card)

4. The volume of disciplines and types of academic work
General credit value of the discipline is **2** credit units (72 hours).

№	Type of study load	Total hours	Semesters			
			7			
1.	**Class hours (total)**	48	48			
1.1	Lectures		-	-	-	-
1.2	Other:		-	-	-	-
1.2.1	*Practical classes(PC)*	48	48	-	-	-
1.2.2	Seminars(S)					
1.2.3	Laboratory research (LR)	-	-	-	-	-
2.	**Self-study (academic hours)**	**24**	**24**			
2.1	course project	4	4		-	-
2.2	report	4	4		-	-
2.3	Preparation and passage of intermediate attestation	10	10			
2.4	Other kinds of inderpendent work	6	6		-	-
3.	**final attestation**	**test**	**test**	-	-	-
	Total workload (academic hours)	72	72			
	Credit Unit	2	2			

5. Content of the discipline
5.1. The content of the discipline sections

№ п/п	Modules	Content of the modules
1.	Anatomy. Methods of examination	1.1 Three parts of the visual analyzer. Anatomy of the orbit 1.2 Protective apparatus of the eye. Conjunctiva. 1.3 Lacrimal organs. Tear secrection and evocuation. 1.4 Tunics of the eyeball. Vitreous body. 1.5 examination of the eye with the side light and in transmitted light. The basics of ophthalmoscopy. 1.6 Central and peripheral vision. 1.7 changing of the vision fields. 1.8 Light perception. Light adaptation.
2	Visual acuity. Refraction. Accomodation.	2.1 Opticsystem of the visual organ. 2.2 Visual acuity.

		2.3 Physical and clinical refraction. 2.4 Accommodation and convergence. 2.5 refractive errors. Correction. 2.6 Astigmatism, its types, principles of correction. 2.7 Presbyopia, principles of correction. 2.8 refractive surgery.
3	Binocular vision. The strabismus.	3.1 Binocular vision. 3.2 Strabismus, types. Reasons. 3.3 Amblyopia. Classification. 3.4 treatment of strabismus.
4.	Inflammatory eye diseases (conjunctivitis, keratitis, scleritis)	4.1. Acute infectious conjunctivitis. Classification. Treatment. Chronic conjunctivitis. Classification. Treatment. Allergic conjunctivitis. Classification. Treatment. 4.2. General symptomes of cornea diseases. Exogenous keratitis. Endogenous keratitis. Etiology, clinical symptomes, treatment. corneal ulcer. Etiology, clinical picture, treatment. outcomes of keratitis. Treatment of keratitis and their consequences. 4.3.Sclerites. The clinical symptomes.
5	Diseases of the vascular tunic	5.1 Iritis. Iridocyclitis. Clinical picture, diagnostics, treatment. 5.2 Chorioretinitis. Clinical picture, diagnostics, treatment. 5.3 Degenerative changes in the vascular tunic. Congenital anomalies. 5.4 Tumors of the vascular tunic. Diagnosis. Treatment.
6	Glaucoma cataract	6.1 Definition of glaucoma. Normal and elevated IOP, Etiology, pathogenesis and classification of glaucoma. Acute attack of glaucoma. Features of the clinical picture. Treatment. Methods of treatment of glaucoma 6.2 Definition of cataract. Classification of cataracts. Link cataracts development with systemic diseases. Modern principles of treatment of cataract.
7	Diseases of the retina and optic nerve	7.1 Retinite. Retinal changes in the cases of systemic diseases. The clinical picture. Treatment. Degenerative changes of the retina. The clinical picture. Treatment. 7.2 Inflammatory and not inflammatory diseases of the optic nerve. Features of the clinical picture. Treatment.
8	Damage to the organ of vision and their prevention. Organization of eye care. Eye diseases in tropical countries	8.1 the Causes and classification of eye injuries. Damage to the eyelids. 8.2 Blunt trauma of the eye-ball. Trauma of the orbit. Diagnosis. Treatment. 8.3 eye burns. Classification. The methods of treatment. 8.4 Organization of eye care. vision disability 8.5 features of ocular pathology in countries with a tropical climate. Classification of eye diseases in tropical countries. Ofthalmogerpesa (main types). 8.6 ophthalmomyiasis. Treatment, prevention. 8.7 Changes of the eye in general diseases. Treatment. 8.8 the eye diseases in cases of vitamins' deficiency, animals's and plants's poisons

5.2. Sections of disciplines and types of classes

№	Name of the section of discipline	Lections	PC	LR	Sem	StW	Total hours.
1.	Anatomy. Methods of examination		6			3	8
2	Visual acuity. Refraction. Accomodation.		6			3	8
3	Binocular vision. The strabismus.		6			3	8
4.	Inflammatory eye diseases (conjunctivitis, keratitis, scleritis)		6			3	8
5	Diseases of the vascular tunic		6			3	8
6	Glaucoma cataract		6			3	8
7	Diseases of the retina and optic nerve		6			3	8
8	Damage to the organ of vision and their prevention. Organization of eye care. Eye diseases in tropical countries		6			3	8
	Total:		**48**			**24**	**72**

7. Practical training (seminars) *(if available)*

№ п/п	Name of the section of discipline	Themes	Intensity (hours)
1.	Anatomy. Methods of examination	Anatomy. Methods of examination	6
2	Visual acuity. Refraction. Accomodation.	Visual acuity. Refraction. Accomodation.	6
3	Binocular vision. The strabismus.	Binocular vision. The strabismus.	6
4	Inflammatory eye diseases (conjunctivitis, keratitis, scleritis)	Inflammatory eye diseases (conjunctivitis, keratitis, scleritis)	6
5	Diseases of the vascular tunic	Diseases of the vascular tunic	6
6	Glaucoma cataract	Glaucoma cataract	6
7	Diseases of the retina and optic nerve	Diseases of the retina and optic nerve	6
8	Damage to the organ of vision and their prevention. Organization of eye care. Eye diseases in tropical countries	Damage to the organ of vision and their prevention. Organization of eye care. Eye diseases in tropical countries	6
	total		**48**

8. Material and technical support of the discipline:

- educational audiences of the Department of Eye Diseases
- educational and research laboratory of innovative methods of diagnosis and treatment of eye diseases
- computer / laptop with installed software, multimedia projector with screen,
- demonstration tables, models,
- the translation system from the ophthalmologic operating room "Living Surgery"
- ophthalmologic diagnostic equipment: Golovin-Sivtsev tables, phoropter, electronic sign projector, slit lamp, ophthalmoscopes direct / indirect, skiascopic rulers, perimeter, Maklakov's tonometer, pneumotonometer, AB scan, fundus camera, retinotomograph, sets of microsurgical instruments,
- operating stereomicroscope.

9. Information support of discipline

a) Software:

1. Microsoft Office
2. Multimedia guide (Atlas of Ophthalmology)
3. Jaypee's Video Atlas of Ophthalmic Surgery. Second Edition. Includes 16 Interactive DVD-ROMS Duration approx 35 hrs. (Video LIX)

b) databases, reference and search systems:

- https://esystem.rudn.ru/
- Scientific electronic library http://elibrary.ru/
- All news of ophthalmology www.eyenews.ru
- Russian ophthalmology online www.eyepress.ru
- Medical portal glazamed.ru
- Download books on ophthalmology http://www.booksmed.com/oftalmologiya/
- http://emedicine.medscape.com/ophthalmology
- http://www.ophthobook.com/
- http://meduniver.com/Medical/Book/95.html

10. Educational and methodical support of the discipline:

a) Main literature

1. Kanski Jack J. Synopsis of Clinical Ophthalmology / J.J. Kanski, B. Bowling. - Third Edition ; Книга на английском языке. - Great Britain : Elsevier, 2013. - 438 p.
2. Kanski Jack J. Clinical Ophthalmology: A Systematic Approach . - 6th ed. - Oxford : Elsevier Butterworth-Heinemann, 2007. - 931 p.

б) additional literature:

1. A Visual Field Evaluation with Automated Devices 2nd edition_Reddy_2006
2. ABC of eyes, 4th edicition. BMJ Books, 2004
3. Angle Closure Glaucoma_Hong,Yamamoto_2007
4. Atlas of Glaucoma, Second Edition_Choplin, Lundy_2007
5. Basic Ophthalmology. Bradford, 2004
6. Bloome Michael A. , Garcia Charles A. Manual of retinal and choroidal dystrophies [Текст] - New York : Appleton-Century-Crofts, 1982. - 129 p.
7. Cataract and Refractive Surgery_Kohnen, Koch_2008
8. Clinical ophthalmology [Текст] / Ed. by Stephen Miller. - Bristol : Wright, 1987. - 599 p.
9. Common eye diseases and their management, 3rd edition, Springer, 2006

10. Current concepts in cataract surgery: Selected proceedings of the seventh biennial cataract surgical Congress [Текст] / Ed. Jared M.Emery, Adrienne C.Jacobson. - New York : Appleton-Century-Crofts, 1982. - 338 p
11. Hammerschlag Steven B. Hesselink John R., Weber Alfred L. Computed tomography of the eye and orbit . - Norwalk; Connecticut : Appleton-Century-Crofts, 1983. - 283 p. :
12. Hobbs H.E. Principles of ophthalmology. - London : William Heinemann medical books ltd, 1965. - 240 p.
13. Microsurgery of the eye: Main aspects / Ed. by S.N.Fyodorov. - Moscow : Mir, 1987. - 267 p.
14. Ophthalmology Lecture Notes For Health Science Students (PDF) Dereje Negussie, Yared Assefa, Atotibebu Kassa, Azanaw Melese University of Gondar, 2004
15. Puckovskaja N.A.The pathogenesis and treatment of eye burns and their sequelae / Transl. from the Russ. by A.Aksenov. - Moscow : Mir, 1976. - 207 p.
16. Somerset Edward John. Ophtalmology in the tropics: A practical handbook. - London; Bailliere : Tindall & Cox, 1962. - 171 p

11. Guidelines for students on the development of the discipline (module)

1. Classroom work.

In each practical lesson (modular unit) are provided:

- topic and questions to study;
- a specific list of skills and abilities that a student must master;
- at the end of each lesson are given control questions and tasks that allow you to determine the success of the assimilation of the studied material.

2. Independent work

Independent work of students in extracurricular hours can take place in the RUDN library and the medical library, where students can study the material using the presentations prepared by the teachers of the Department, educational and scientific literature, and also with the use of the telecommunications electronic system esystem.rudn.ru

Out-of-class independent work of the student includes:

- Study of the material on the textbook, manuals on paper and electronic media, on educational materials in the telecommunications electronic system esystem.rudn.ru
- Preparation of a presentation/essay on the selected topic.
- Filling in the educational version of the history of the ophthalmological patient
- Preparation for performance of control works and test task
- performing tasks in the telecommunications electronic system of the RUDN esystem.rudn.ru

The requirements for writing essays

The essay is an independent research work of the student, certain rules must be observed:

- it is unacceptable to copy the text from a book or work posted on the Internet, without its own interpretation of the material, given the rules of citation;

- be sure to use only reliable sources;

- the volume of the abstract should be at least 10 sheets written by hand and consist of the title page, introduction (relevance of the problem), the content reflecting the essence of the topic and the stages of development of certain processes leading to the development of the studied problems, conclusions and references (at least 5 sources);

- the student at his level should fully disclose the essence of the problem under study (pathological process or disease), give the data obtained by different authors in the study of this pathology.

12. Fund of estimated means for the interim assessment of students in the discipline (module)

Funds of evaluation tools for the discipline are presented in educational and methodical complexes developed in support of this educational program.

The funds of evaluation tools include: standard tasks; control works; tests and control methods (colloquiums, credit, exam), allowing to assess the knowledge, skills and level of acquired competencies, etc. the Set of evaluation tools is determined by the teacher individually. Test tasks and tests are grouped in accordance with the main sections of the course and are used in laboratory/practical classes, as well as as an integral part of the intermediate and final control of students ' knowledge during examinations, colloquiums, tests and exams.

Materials for assessing the level of development of educational material of the discipline "Ophthalmology" (evaluation materials), including a list of competencies indicating the stages of their formation, a description of indicators and criteria for evaluating competencies at various stages of their formation, a description of assessment scales, standard control tasks or other materials necessary for assessing knowledge, skills, skills and (or) experience of activities that characterize the stages of competence formation in the process of mastering the educational program, methodological materials that define the procedures for evaluating knowledge, skills, skills and (or) work experience that characterize the stages of competence formation are developed in full and are available to students on the discipline page in the TUIS RUDN esystem.rudn.ru

The program was compiled in accordance with the requirements of the SE HE PFU.

Authors:

Head of the Departement
of Eye Diseases
MD., Professor — M.A. Frolov

Associate Professor of the
Department of eye diseases
Ph.D., — A.M. Frolov

Senior lecturer of the
Department of eye diseases
Ph.D., — K.A. Kazakova

Head of Department
Eye Diseases
MD., Professor — M.A. Frolov

Head of Program
MD. Professor, — S.N. Razumova