Federal State Autonomous Educational Institution of Higher Education
PEOPLES' FRIENDSHIP UNIVERSITY OF RUSSIA
RUDN University

Institute of Medicine

educational division (faculty/institute/academy) as higher education program developer

COURSE SYLLABUS

Ophthalmology

course title

Recommended by the Didactic Council for the Education Field of:

31.05.03 Dentistry

field of studies / speciality code and title

The course instruction is implemented within the professional education program of higher education:

Dentistry

higher education program profile/specialisation title

2022-2023

1. **COURSE GOAL (s)**
   The goal of the course "Ophthalmology" is to equip students with the scientific knowledge in ophthalmology and the ability to detect eye pathology, to prevent eye diseases and provide first aid to ophthalmological patients.
   is to equip students with the knowledge of

2. REQUIREMENTS FOR LEARNING OUTCOMES

Mastering the course (module) "Ophthalmology" is aimed at the development of the following competences /competences in part: GPC-5, GPC-9, PC-1, PC-6.

Table 2.1. List of competences that students acquire through the course study

Code	Competence	Competence Achievement Indicator
GPC-5	Able to conduct a patient examination in order to establish a diagnosis in solving professional problems	GPC-5.6. Sends a patient for a consultation to specialist if there are medical indications in accordance to the current procedures for the provision of medical care, clinical guidelines (treatment protocols) on the provision of dental care, taking into account standards.
		GPC-5.8. Conducts differential diagnosis with other diseases/conditions, including the urgent ones.
GPC-9	Able to assess morphofunctional, physiological conditions and pathological processes in the human body to solve professional problems	GPC-9.3. Determines the morphofunctional, physiological states and pathological processes of the human body.
PC-1	Capable of examining the patient in order to establish a diagnosis.	PC-1.2. Receives information from patients (their relatives/legal representatives), conducts a survey of patients on the subject of general health, identification of concomitant diseases in order to establish a preliminary diagnosis.
PC-6	Able to analyze and publicly present medical information based on evidence-based medicine, to participate in scientific research, to introduce new methods and techniques aimed at protecting public health	PC-6.1. Conducts a search for medical information based on evidence-based medicine, interpreting the data of scientific publications and / or preparing a presentation for the public presentation of medical information, the results of scientific research

3. COURSE IN HIGHER EDUCATION PROGRAMME STRUCTURE
   The course refers to the core/variable/elective* component of (B1) block of the higher educational programme curriculum.
   * - Underline whatever applicable.
   Within the higher education programme students also master other (modules) and / or internships that contribute to the achievement of the expected learning outcomes as results of the course study.

Table 3.1. The list of the higher education programme components/disciplines that contribute to the achievement of the expected learning outcomes as the course study results

Competence code	Competence descriptor	Previous courses/modules*	Subsequent courses/modules*
GPC-5.6	Refers the patient for a consultation with specialist doctors if 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 standards.	Internal medicine	Other clinical disciplines
GPC-5.8.	Conducts differential diagnosis with other diseases/conditions, including urgent ones.	Internal Medicine	Other clinical disciplines
GPC-9.3.	Determines the morphofunctional, physiological states and pathological processes of the human body.	Pathophysiology - Pathophysiology of the head and neck	Other clinical disciplines evidence-based medicine
PC-1.2.	Receives information from patients (their relatives/legal representatives), conducts a survey of patients on the subject of general health, identification of concomitant diseases in order to establish a preliminary diagnosis.	Immunology, clinical immunology Life safety Cariesology and diseases of hard dental tissues	Gnatology and functional diagnostics of the temporal mandibular joint Other clinical disciplines
PC-6.1.	Conducts a search for medical information based on evidence-based medicine, interpreting the data of scientific publications and / or preparing a presentation for the public presentation of medical information, the results of scientific research	Immunology, clinical immunology, Pharmacology	Internal Medicine Other clinical disciplines

* To be filled in according to the competence matrix of the higher education programme.

4. COURSE WORKLOAD AND ACADEMIC ACTIVITIES

The total workload of the course is 2 credits (72 academic hours).

Table 4.1. Types of academic activities during the periods of higher education programme mastering (__full-time training__)*

Type of academic activities		Total academic hours	Semesters/training modules				
			7				
Contact academic hours		**48**	**48**				
including:							
Lectures (LC)							
Lab work (LW)							
Practical classes/Seminars(S)		48	48				
Self-studies		18	18				
Evaluation and assessment (exam/passing/failing grade)		6	6				
Course workload	academic hours	**72**	**72**				
	credits	**2**	**2**				

5. COURSE CONTENTS

Table 5.1. Course contents and academic activities types

Type of academic activities	Total academic hours	Semesters/training modules
Anatomy. Methods of examination	1.1 Three parts of the visual analyzer. Anatomy of the orbit Protective apparatus of the eye. Conjunctiva. Lacrimal organs. Tear secrection and evocuation. Tunics of the eyeball. Vitreous body. examination of the eye with the side light and in transmitted light. The basics of ophthalmoscopy. Central and peripheral vision. changing of the vision fields. Light perception. Light adaptation.	LR, S

Visial acuity. Refraction. Accomodation. Binocular vision. The strabismus.	1. Optic system of the visual organ. Visual acuity. Physical and clinical refraction. Accommodation and convergence. refractive errors. Correction. Astigmatism, its types, principles of correction. Presbyopia, principles of correction. Binocular vision. Strabismus, types. Reasons. treatment of strabismus.	LR, S
Inflammatory eye diseases (conjunctivitis, keratitis, scleritis, uveitis)	3.1 Acute infectious conjunctivitis. Classification. Treatment. Chronic conjunctivitis. Classification. Treatment. Allergic conjunctivitis. Classification. Treatment. General symptomes of cornea diseases. Exogenous keratitis. Endogenous keratitis. Etiology, clinical symptoms, treatment. corneal ulcer. Etiology, clinical picture, treatment. outcomes of keratitis. Treatment of keratitis and their consequences. Sclerites. The clinical symptomes. Iritis. Iridocyclitis. Clinical picture, diagnostics, treatment. Chorioretinitis. Clinical picture, diagnostics, treatment.	
Glaucoma cataract	4.1 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 Definition of cataract. Classification of cataracts. Link cataracts development with systemic diseases. Modern	LR, S

	principles of treatment of cataract.	
Diseases of the retina and optic nerve Damage to the organ of vision and their prevention. Organization of eye care	5.1 Retinite. Retinal changes in the cases of systemic diseases. The clinical picture. Treatment. Degenerative changes of the retina. The clinical picture. Treatment. Inflammatory and not inflammatory diseases of the optic nerve. Features of the clinical picture. Treatment. Causes and classification of eye injuries. Damage to the eyelids. Blunt trauma of the eye-ball. Trauma of the orbit. Diagnosis. Treatment. eye burns. Classification. The methods of treatment. Organization of eye care. vision disability	LR, S
Eye diseases in tropical countries	6.1 Etiology of trachoma, stages of the disease. Complications and consequences of trachoma. Differential diagnosis. Prevention and treatment of trachoma. features of ocular pathology in countries with a tropical climate. Classification of eye diseases in tropical countries. helminthiasis (main types). ophthalmomyiasis. Treatment, prevention. Change of the eye in general diseases. Treatment. the eye diseases in cases of vitamins' deficiency, animals's and plants's poisons	LR, S

* - to be filled in only for **full** -time training: *LC - lectures; LW - lab work; S - seminars.*

6. CLASSROOM EQUIPMENT AND TECHNOLOGY SUPPORT REQUIREMENTS

Table 6.1. Classroom equipment and technology support requirements.

Type of academic activities	Classroom equipment	Specialised educational / laboratory equipment, software, and materials for course study (if necessary)
Seminar	Audience for practical training, equipped with a set of specialized furniture; board (screen) and technical means for multimedia presentations.	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. 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)
Lab work	An auditorium for laboratory work, individual consultations, current control and intermediate certification, equipped with a set of specialized furniture and equipment.	computer / laptop with installed software, multimedia projector with screen, demonstration tables, models, the translation system from the ophthalmologic operating room "Living Surgery" 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

Type of academic activities	Classroom equipment	Specialised educational / laboratory equipment, software, and materials for course study (if necessary)
		Duration approx 35 hrs. (Video LIX)
Seminar	An auditorium for conducting seminar-type classes, group and individual consultations, current control and intermediate certification, equipped with a set of specialized furniture and technical means for multimedia presentations.	computer / laptop with installed software, multimedia projector with screen, demonstration tables, models, the translation system from the ophthalmologic operating room "Living Surgery" 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)
Self-studies	An auditorium for independent work of students (can be used for seminars and consultations), equipped with a set of specialized furniture.	computer / laptop with installed software, multimedia projector with screen, demonstration tables, models, the translation system from the ophthalmologic operating room "Living Surgery" 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)

* The premises for students' self-studies are subject to **MANDATORY** mention

7. RESOURCES RECOMMENDED FOR COURSE STUDY

Main readings

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.

Additional readings:

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. 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.

1. Hammerschlag Steven B. Hesselink John R., Weber Alfred L. Computed tomography of the eye and orbit . - Norwalk; Connecticut : Appleton-Century-Crofts, 1983. - 283 p. :
2. Hobbs H.E. Principles of ophthalmology. - London : William Heinemann medical books ltd, 1965. - 240 p.
3. Microsurgery of the eye: Main aspects / Ed. by S.N.Fyodorov. - Moscow : Mir, 1987. - 267 p.
4. OphthalmologyLectureNotesForHealthScienceStudents(PDF)DerejeNegussie,YaredAssefa, Atotibebu Kassa, Azanaw Melese University of Gondar, 2004
5. 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.
6. Somerset Edward John. Ophtalmology in the tropics: A practical handbook. - London; Bailliere : Tindall & Cox, 1962. - 171 p

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:

- Educational portal of PFUR
- 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

Training toolkit for self- studies to master the course *:

1. The set of lectures on the course " Ophthalmology"
2. The laboratory workshop (if any).on the course " Ophthalmology"
3. The guidelines for writing a course paper / project (if any) on the course " Ophthalmology".
4. …………

* The training toolkit for self- studies to master the course is placed   on the course page in the university telecommunication training and information system under the set procedure.

8. ASSESSMENT TOOLKIT AND GRADING SYSTEM* FOR EVALUATION OF STUDENTS' COMPETENCES LEVEL UPON COURSE COMPLETION

The assessment toolkit and the grading system* to evaluate the competences formation level (GPC-5, GPC-9, PC-1, PC-6.) upon the course study completion are specified in the Appendix to the course syllabus.

* The assessment toolkit and the grading system are formed on the basis of the requirements of the relevant local normative act of RUDN University (regulations / order).

DEVELOPERS:

Head of the department of eye diseases, PhD, professor		Frolov M.A.
position, department	signature	name and surname

Associate professor of the department of eye diseases, PhD		Frolov A.M.
position, department	signature	name and surname

Assistant of the department of eye diseases		Belyaeva E.S.
position, department	signature	name and surname

HEAD OF EDUCATIONAL DEPARTMENT:

Head of the department of eye

diseases, PhD, professor   Frolov M.A.

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Наименование БУП   Подпись   Фамилия И.О.

HEAD
OF HIGHER EDUCATION PROGRAMME:

Deputy Director of
Medical Institute
for academic Affairs , Professor   S.N. Razumova

———————————————   ———————————   ———————————————
position, department   signature   name and surname