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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:

31.05.01 General Medicine
(higher education programme profile/specialisation title)

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

General Medicine
(higher education programme profile/specialisation title)

2024 г.

1. COURSE GOAL(s)

The discipline “Ophthalmology” is included in the specialty program “General Medicine” in the direction of 31.05.01 “General Medicine” and is studied in the 8th semester of the 4th course. The discipline is implemented by the Department of Eye Diseases. The discipline consists of 16 sections and 63 topics and is aimed at studying practical skills, diagnosis, treatment, and prevention of eye diseases.

The purpose of the study of eye diseases is the formation of scientific knowledge in the field of ophthalmology and the ability on their basis to identify deviations in the state of the organ of vision in people of different age, to carry out prevention and provide first aid to patients, taking into account further education and professional activities.

2. REQUIREMENTS FOR LEARNING OUTCOMES

The process of studying the discipline “Ophthalmology” is aimed at the formation of the following competencies:

Table 2.1. The list of competencies formed in students during mastering disciplines (results of mastering the discipline).

Code	Competence	Competence Achievement Indicator
GPC-5	Being able to assess morpho-functional, physiological conditions and pathological processes in the human body to solve professional tasks	GPC-5.2. Being able to evaluate the results of clinical, laboratory and functional diagnosis when dealing with professional tasks. GPC-5.3 Able to determine morphofunctional, physiological states and pathological processes in the human body based on knowledge about the structure of the human body, the functioning of organs and systems in normal and pathological conditions;
GPC-7	Being able to prescribe treatment and monitor its efficacy and safety	GPC-7.1. Mastering skills in the methods of general clinical examination, interpretation of laboratory results, instrumental diagnostic methods.
PC-1	Being able to provide emergency or urgent medical care to a patient	PC-1.3. Being able to provide emergency medical care to patients with sudden acute diseases, conditions, exacerbation of chronic diseases without obvious signs of a threat to the patient’s life. PC-1.6. Being able to use drugs and medical devices when providing medical care in emergency or urgent forms.

PC-2	Being able to examine a patient in order to determine a diagnosis	<p>PC-2.1. Mastering the skills to collect complaints, anamnesis of the patient's life and disease, as well as conduct a complete physical examination of the patient (examination, palpation, percussion, auscultation).</p> <p>PC-2.2. Being able to make a preliminary diagnosis and make up a plan of laboratory and instrumental examinations of a patient.</p> <p>PC-2.3 Able to refer a patient for laboratory examination if there are medical indications in accordance with the current procedures for the provision of medical care, clinical recommendations (treatment protocols) on the provision of medical care, taking into account the standards of medical care;</p> <p>PC-2.4 Able to refer the patient for an instrumental examination if there are medical indications in accordance with the current procedures for the provision of medical care, clinical recommendations (treatment protocols) on the provision of medical care, taking into account the standards of medical care;</p> <p>PC-2.5. Being able to refer a patient to consult with a medical specialist if there is a medical indication in accordance with the current procedures for the provision of medical care, clinical guidelines (treatment protocols) on the provision of medical care taking into account the standards of medical care.</p> <p>PC-2.6 Able to refer a patient to provide specialized medical care in an inpatient setting or in a day hospital if there are medical indications in accordance with the current procedures for the provision of medical care, clinical recommendations (treatment protocols) on the provision of medical care, taking into account the standards of medical care;</p> <p>PC-2.7. Being able to carry out differential diagnosis with other diseases/conditions, including the urgent ones, as well as to make a diagnosis taking into account the current international statistical classification of diseases and problems related to health (ICD).</p>
PC-3.	Being able to prescribe treatment and monitor its efficacy and safety	<p>PC-3.1 Able to develop a treatment plan for a disease or condition taking into account diagnosis, age and clinical picture in accordance with current procedures for the provision of medical care, clinical recommendations (treatment protocols) for the provision of medical care, taking into account the standards of medical care;</p> <p>PC-3.2. Being able to prescribe medicinal drugs, medical devices and medical nutrition taking into account the diagnosis, age and clinical picture of the disease and in accordance with the current procedures for the provision of medical care, clinical guidelines (treatment protocols) on the provision of medical care taking into account the standards of medical care.</p> <p>PC-3.3. Being able to prescribe non-drug treatment taking into account the diagnosis, age and clinical picture of the disease in accordance with the current procedures for the provision of medical care, clinical guidelines (treatment protocols) on the provision of medical care taking into account the standards of medical care.</p> <p>PC-3.4. Being able to assess the efficacy and safety of the use of drugs, medical devices, medical nutrition and other treatment methods.</p>

PC-5	Being able to carry out preventive measures and measures to promote a healthy lifestyle and sanitary and hygiene education among population and monitor their effectiveness	PC-5.4. Being able to carry out follow-up care of patients with diagnosed chronic noncommunicable diseases. PC-5.5. Being able to prescribe preventive measures to patients taking into account risk factors in accordance with the current procedures for the provision of medical care, clinical guidelines (treatment protocols) on the provision of medical care taking into account the standards of medical care.
PC-6	Being able to keep medical records and organize the activities of the nursing staff	PC-6.3. Being able to keep medical records, including in the electronic form.

3. COURSE IN HIGHER EDUCATION PROGRAMME STRUCTURE

The discipline "Ophthalmology" refers to the basic part of the block 1 of the curriculum, which is included in the cycle of clinical disciplines.

As part of the educational program of higher education, students also master other disciplines and/or practices that contribute to achieving the planned results of mastering the discipline "Ophthalmology".

Table 3.1. The previous and subsequent disciplines aimed at the formation of discipline competencies in accordance with the competency matrix of the EP HE.

Code	Competence Name	Previous disciplines	Subsequent disciplines (groups of disciplines)
GPC-5	Able to assess morphofunctional, physiological states and pathological processes in the human body to solve professional problems	Propaedeutics of internal diseases; Medical elementology; Obstetrics and gynecology; Biochemistry; Immunology; General surgery; Pharmacology; Anatomy; Topographic anatomy and operative surgery; Histology, embryology, cytology; Normal physiology; Microbiology, virology; Pathophysiology, clinical pathophysiology; Radiation diagnostics; Bioorganic chemistry; Pathological anatomy, clinical pathological anatomy; Biology; Chemistry;	Obstetrics and gynecology; Pediatrics; Maxillofacial Surgery; Sectional course; Forensic Medicine; Phthisiology; Anesthesiology, resuscitation, intensive care; Oncology, radiation therapy; Medical forensics; Methods microbiological diagnostics;

GPC-7	Able to prescribe and monitor treatment efficiency and safety	Propaedeutics of internal diseases; General surgery; Pharmacology; Histology, embryology, cytology; Normal physiology;	Clinical pharmacology; Pediatrics; Maxillofacial Surgery; Outpatient therapy; Cardiology in quests; General practice: outpatient physician assistant institutions;
PC-1	Capable of providing medical care to a patient in urgent or emergency conditions	Propaedeutics of internal diseases; Obstetrics and gynecology; General surgery; Faculty Therapy; Faculty of Surgery; Neurology, medical genetics, neurosurgery; Emergency medicine for life-threatening conditions; Diagnostic practice: assistant ward nurse; Practice in emergency medical procedures (simulation center); Practice to gain primary professional skills and experience professional activity: procedural assistant nurse;	Emergency conditions; Emergency Medicine; Obstetrics and gynecology; Infectious diseases; Pediatrics; Endocrinology; Outpatient therapy; Anesthesiology, resuscitation, intensive care; Hospital surgery, pediatric surgery; Oncology, radiation therapy; Traumatology, orthopedics; Hospital therapy; Endoscopic urology; Allergology; Assistant physician of a therapeutic profile: assistant physician of a general practitioner; Obstetrics and gynecology practice: assistant obstetrician; General practice: pediatric assistant;

PC-2	Capable of examining a patient to establish a diagnosis	<p><i>Medical enzymology**;</i> <i>Molecular genetics in practical biology and medicine**;</i> <i>Propaedeutics of internal diseases;</i> <i>Medical elementology;</i> <i>Obstetrics and gynecology;</i> <i>Immunology;</i> <i>General surgery;</i> <i>Faculty Therapy;</i> <i>Faculty of Surgery;</i> <i>Microbiology, virology;</i> <i>Pathophysiology, clinical pathophysiology; Neurology, medical genetics, neurosurgery;</i> <i>Evidence-based medicine;</i> <i>Radiation diagnostics;</i> <i>Dermatovenerology;</i> <i>Pathological anatomy, clinical pathological anatomy;</i></p>	<p>Telemedicine; General medical skills; Emergency conditions; Obstetrics and gynecology; Infectious diseases; Pediatrics; Maxillofacial Surgery; Sectional course; Occupational diseases; Endocrinology; Psychiatry, medical psychology; Phthisiology; Outpatient therapy; Anesthesiology, resuscitation, intensive care; Hospital surgery, pediatric surgery; Oncology, radiation therapy; Traumatology, orthopedics; Reproductive health; Clinical dentistry; Current issues in neonatology**; Topical Issues Neonatology**; Cardiology in quests; Methods microbiological diagnostics; Hospital therapy; Endoscopic urology; Allergology; Assistant physician of a therapeutic profile: assistant physician of a general practitioner; General medical practice: assistant physician in an outpatient clinic; Obstetrics and gynecology practice: assistant obstetrician;</p>
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PC-3	Capable of prescribing treatment and monitoring its efficacy and safety	<p><i>Introduction to Nutrition**;</i> <i>Obstetrics and gynecology;</i> <i>Faculty Therapy; Pharmacology;</i> <i>Faculty of Surgery; Fundamentals of Integrative Medicine**;</i> <i>Neurology, medical genetics, neurosurgery;</i> <i>Dermatovenerology;</i> <i>Clinical Trials**;</i> <i>Clinical researches**;</i></p>	<p>General practice: pediatric assistant; Telemedicine; Outpatient cardiology**; Fundamentals of childhood nutrition**; Obstetrics and gynecology; Infectious diseases; Clinical pharmacology; Pediatrics; Maxillofacial Surgery; Occupational diseases; Endocrinology; Psychiatry, medical psychology; Phthisiology; Outpatient therapy; Hospital surgery, pediatric surgery; Oncology, radiation therapy; Traumatology, orthopedics; Reproductive health; Current issues in neonatology**; Topical Issues of Neonatology**; Experimental oncology; Cardiology in quests; Geriatrics and palliative medicine; Hospital therapy; Endoscopic urology; Allergology; Assistant physician of a therapeutic profile: assistant physician of a general practitioner; General medical practice: assistant physician in an outpatient clinic; Obstetrics and gynecology practice: assistant obstetrician; General practice: pediatric assistant;</p>
PC-6.	Capable of leading medical documentation and organization of the activities of the nursing staff at the disposal	<p><i>Propaedeutics of internal diseases;</i> <i>Obstetrics and gynecology;</i> <i>Bioethics**;</i> <i>General surgery;</i> <i>Faculty Therapy;</i> <i>Faculty of Surgery; Public health and Propaedeutics of internal diseases;</i> <i>Obstetrics and gynecology;</i> <i>Bioethics**;</i> <i>General surgery;</i> <i>Faculty Therapy;</i> <i>Faculty of Surgery; Public health and health care, health economics;</i> <i>Radiation diagnostics;</i> <i>Biostatistics;</i> <i>Introductory practice on obtaining primary professional skills: nursing (simulation center);</i></p>	<p>Telemedicine; Obstetrics and gynecology; Infectious diseases; Pediatrics; Forensic Medicine; Outpatient therapy; Anesthesiology, resuscitation, intensive care; Hospital surgery, pediatric surgery; Oncology, radiation therapy; Modern methods of medical statistics; Hospital therapy; Endoscopic urology; Allergology; Assistant physician of a therapeutic profile: assistant physician of a general practitioner; General medical practice: assistant physician in an</p>

		<p><i>Introductory practice on obtaining primary professional skills and skills: nursing;</i></p> <p><i>Practice for obtaining primary professional skills and abilities: assistant to junior medical staff;</i></p> <p><i>Practice to gain primary professional skills and experience professional activity: procedural assistant nurse;</i></p>	<p>outpatient clinic; Obstetrics and gynecology practice: assistant obstetrician;</p>
PC-5	<p>Capable of carrying out and monitoring the effectiveness of measures to prevent and promote a healthy lifestyle and sanitary and hygienic education of the population</p>	<p><i>Introduction to Nutrition**;</i></p> <p><i>Propaedeutics of internal diseases;</i></p> <p><i>Organization of special care for patients;</i></p> <p><i>Obstetrics and gynecology;</i></p> <p><i>Epidemiology;</i></p> <p><i>Hygiene; Neurology, medical genetics, neurosurgery;</i></p> <p><i>Dermatovenerology;</i></p> <p><i>Fundamentals of psychophysiology**;</i></p>	<p><i>Outpatient cardiology**;</i></p> <p><i>Fundamentals of childhood nutrition**;</i></p> <p><i>Obstetrics and gynecology;</i></p> <p><i>Infectious diseases;</i></p> <p><i>Pediatrics;</i></p> <p><i>Occupational diseases;</i></p> <p><i>Endocrinology;</i></p> <p><i>Phthisiology;</i></p> <p><i>Outpatient therapy;</i></p> <p><i>Reproductive health;</i></p> <p><i>Clinical dentistry;</i></p> <p><i>Endoscopic urology; General medical practice: assistant physician in an outpatient clinic;</i></p> <p><i>General practice: pediatric assistant;</i></p>

* - to be filled out in accordance with the competency matrix and SUP EP VO

** - elective disciplines/practices

4. COURSE WORKLOAD AND ACADEMIC ACTIVITIES

The total workload of the course «Ophthalmology» is 3 credits.

Table 4.1. Types of academic activities during the periods of higher education programme mastering

Type of academic activities	Total academic hours		Semesters
			8
<i>Contact academic hours</i>	75		75
Lectures (LC)	0		0
Lab work (LW)	75		75
Seminars (workshops/tutorials) (S)	0		0
<i>Self-studies</i>	27		27
<i>Evaluation and assessment (exam/passing/failing grade)</i>	6		6
Course workload	academic hours	108	108
	credits	3	3

The total workload of the course «Ophthalmology» is 3 credits.

Table 4.2. Types of educational work by periods of mastering the educational program of higher education for full-time study.

Type of academic activities	Total academic hours		Semesters
			8
<i>Contact academic hours</i>	75		75
Lectures (LC)	0		0
Lab work (LW)	75		75
Seminars (workshops/tutorials) (S)	0		0
<i>Self-studies</i>	27		27
<i>Evaluation and assessment (exam/passing/failing grade)</i>	6		6
Course workload	academic hours	108	108
	credits	3	3

5. COURSE CONTENTS

Table 5.1. Course contents and academic activities types

Section number	Course module title	Course module contents (topics)	Academic activities types
Section 1	Introduction to Ophthalmology.	1.1 The history of ophthalmology. 1.2 The main tasks of General practitioners; the problem of ocular morbidity and blindness. 1.3 Evolution of the vision organ and the development of the human eye.	LW
Section 2	Anatomy of the eyeball	2.1 Three parts of the visual analyzer. Anatomy of the orbit. 2.2 Protective apparatus of the eye. 2.3 Tear secretion and evacuation. 2.4 Tunics of the eyeball. 2.5 Structures of the eyeball.	LW
Section 3	Examination of the anterior segment of the eye	3.1 examination of the eye with the side light and in transmitted light. The basics of biomicroscopy. 3.2 The basics of ophthalmoscopy.	LW
Section 4	Methods of examination of eye function	4.1 Central and peripheral vision. 4.2 Changes of the vision fields 4.3 Colour vision. Disorders of color perception. 4.4 Light perception. Light adaptation	LW
Section 5	Visual acuity. Refraction. Accommodation.	5.1 Optic system of the visual organ. 5.2 Visual acuity. 5.3 Physical and clinical refraction. 5.4 Accommodation and convergence.	LW
Section 6	Clinic refraction. Astigmatism. Presbyopia. Correction of refractive errors	6.1 Clinical refractive errors. Hypermetropia and myopia. Correction. 6.2 Astigmatism, its types, principles of correction. 6.3 Presbyopia, principles of correction. 6.4 Refractive surgery.	LW
Section 7	The muscles of the eye. Binocular vision. Strabismus.	7.1 Binocular vision. Disorders of binocular vision 7.2 Strabismus, types. reasons. 7.3 Amblyopia. Classification. 7.4 Treatment of strabismus.	LW
Section 8	Diseases of eyelids, lachrymal organs, of the orbit.	8.1 . Diseases of the eyelids. Congenital anomalies of the eyelids. 8.2 Diseases of the lachrymal organs. Differential diagnosis. The methods of treatment. 8.3 . Diseases of the orbit. Tumors of the orbit.	LW

Section 9	Diseases of the conjunctiva	9.1 Acute infectious conjunctivitis. Classification. Treatment. 9.2 Allergic conjunctivitis. Classification. Treatment. 9.3 . Degenerative changes the conjunctiva. Tumors of the conjunctiva. Treatment.	LW
Section 10	Diseases of the cornea and sclera	10.1 General symptoms of cornea diseases. Exogenous keratitis. Etiology, clinical picture, treatment. 10.2 corneal ulcer. Etiology, clinical picture, treatment. 10.3 Avitaminoses of the cornea. 10.4 Outcomes of keratitis. Treatment of keratitis and their consequences. 10.5 Sclerites. The clinical symptoms and treatment.	LW
Section 11	Diseases of the vascular tunic	11.1 Uveitis. Etiology and classification 11.2 . Iritis. Iridocyclitis. Clinical picture, diagnostics, treatment. 11.3 Chorioretinitis. Clinical picture, diagnostics, treatment.	LW
		11.4 . Degenerative changes in the vascular tunic. Congenital anomalies. 11.5 Tumors of the vascular tunic. Diagnosis. Treatment.	
Section 12	Diseases of the retina and optic nerve	12.1 Retinal changes in the cases of systemic diseases. The clinical picture. Treatment. 12.2 Degenerative changes of the retina. The clinical picture. Treatment. 12.3 inflammatory and not inflammatory diseases of the optic nerve. Features of the clinical picture. Treatment 12.4 Congenital anomalies and tumors of the retina and optic nerve. Features of diagnostics and treatment.	LW
Section 13	Glaucoma	13.1 Definition of glaucoma. Normal and elevated IOP. 13.2 Etiology, pathogenesis, and classification of glaucoma. 13.3 Acute attack of glaucoma. Features of the clinical picture. Treatment. 13.4 Methods of treatment of glaucoma.	LW
Section 14	Diseases of the crystalline lens. Prevention and treatment.	14.1 Definition of cataract. Classification of cataracts. Link cataracts development with systemic diseases. 14.2 Modern principles of treatment of cataract 14.3 Diseases of the vitreous body.	LW

Section 15	Damage to the organ of vision and their prevention. Organization of eye care	15.1 The causes and classification of eye injuries. Damage to the eyelids. 15.2 Blunt trauma of the eyeball. Trauma of the orbit. Diagnosis. Treatment. 15.3 Eye burns. Classification. The methods of treatment. 15.4 Organization of eye care. vision disability. 15.5 Eye prosthetics.	LW
Section 16	Eye diseases in tropical countries	16.1 features of ocular pathology in countries with a tropical climate. Classification of eye diseases in tropical countries. Trachoma. 16.2 Ophthalmohelminthiases (main types). 16.3 Ophthalmomyiasis. Treatment, prevention. 16.4 Change of the eye in general diseases. Treatment. 16.5 the eye diseases in cases of vitamins' deficiency, animals's and plants's poisons.	LW

* - 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. Material and technical support of the discipline

Type of academic activities	Classroom equipment	Specialised educational / laboratory equipment, software, and materials for course study (if necessary)
Seminar (clinical base of MSCh AO “Vnukovo International Airport”)	A classroom for conducting seminars, group and individual consultations, current and mid-term assessment; equipped with a set of specialised furniture and technical means for multimedia presentations.	ophthalmic diagnostic equipment: Golovin-Sivtsev eye chart, phoropter, electronic sign projector, slit lamp, direct/indirect ophthalmoscopes, skiascopic rulers, perimeter, Maklakov tonometer, pneumotonometer, A -B-scan, fundus camera, retinotomograph, sets of microsurgical instruments

<p>Laboratory of innovative methods of treatment of eye pathology (clinical base Moscow city clinical Hospital after V.M. Buyanov)</p>	<p>A classroom for laboratory work, individual consultations, current and mid-term assessment; equipped with a set of specialised furniture and machinery</p>	<p>computer/laptop with installed software. multimedia projector with a screen, demonstration tables, dummies, broadcast system from the ophthalmic operating room "Live Surgery"</p> <p>Software:</p> <ol style="list-style-type: none"> 1. Microsoft Office 2. Multimedia manual (Atlas of ophthalmology)Jaypee's Video Atlas of Ophthalmic Surgery.Second Edition. Includes 16 Interactive DVD-ROMS Durationapprox 35 hrs. (Video LIX)
<p>Seminar (clinical base of MSCh AO "Vnukovo International Airport")</p>	<p>A classroom for conducting seminars, group and individual consultations, current and mid-term assessment; equipped with a set of specialised furniture and technical means for multimedia presentations.</p>	<p>computer/laptop with installed software. multimedia projector with a screen, - demonstration tables, dummies</p> <p>Software:</p> <ol style="list-style-type: none"> 1. Microsoft Office 2. Multimedia manual (Atlas of ophthalmology)Jaypee's Video Atlas of Ophthalmic Surgery.Second Edition. 3. Includes 16 Interactive DVD-ROMS Durationapprox 35 hrs. (Video LIX)
<p>Self-studies (clinical base Moscow city clinical Hospital after V.M. Buyanov)</p>	<p>A classroom for independent work of students (can be used for seminars and consultations), equipped with a set of specialised furniture and computers with access to the electronic information and educational environment.</p>	<p>computer/laptop with installed software. multimedia projector with a screen, demonstration tables, dummies,</p> <p>Software:</p> <ol style="list-style-type: none"> 1. Microsoft Office 2. Multimedia manual (Atlas of ophthalmology)Jaypee's Video Atlas of Ophthalmic Surgery.Second Edition. 1. Includes 16 Interactive DVD-ROMS Durationapprox 35 hrs. (Video LIX)

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

7. RESOURCES RECOMMENDED FOR COURSE STUDY

Основная литература:

1. Ophthalmology: national guide / ed. S.E. Avetisova, E.A. Egorova, L.K. Moshetova, V.V. Neroeva, Kh.P. Takhchidi. - 2nd ed. , processed and additional ; Electronic text data. - Moscow: GEOTAR-Media, 2022. - 904 p.

https://lib.rudn.ru:443/MegaPro/UserEntry?Action=Link_FindDoc&id=508239&idb=0

2. Ophthalmology: textbook / ed. E.A. Egorova. - 2nd ed. , processed and additional ; Electronic text data. - Moscow: GEOTAR-Media, 2021. - 272 p.

https://lib.rudn.ru:443/MegaPro/UserEntry?Action=Link_FindDoc&id=508140&idb=0

Additional reading:

1. Accommodative disorders in the practice of optometry and ophthalmoergonomics/ V.N. Trubilin, I.G. Ovechkin, E.I. Belikova et al. - Moscow: GEOTAR-Media, 2021- 416 pp. 2. Inflammatory and infectious diseases of the eyes / ed. Hyun Gong Yoo; lane from English edited by I. A. Loskutova. — Moscow: GEOTAR-Media, 2021.- 128 p.

3. Elichev V.P. Basic methods for diagnosing glaucoma / V.P. Elichev, A.A. Antonov, A.A.Vitkov.-M.: April, 2021.- 337 p.

4. Lecture notes on eye diseases.-M.: T8., 2021.-182 p. Shilnikov L.V., Mityakina Yu.A.

5. Conjunctivitis/ I.A. Loskutov, E.N. Khomyakova.-Moscow: GEOTARMEDIA, 2022.- 152 pp.:

6. New concepts in glaucoma surgery / ed. J. Samples et al; lane from English edited by I.A. Loskutova .- Moscow: GEOTAR-Media, 2022-376c

7. Practical guide to emergency ophthalmology: algorithms for the approach to providing emergency care in ophthalmology, ed. E.-L. Shirodkar, G.S. Williams; translation from English edited by I.A. Loskutova. – M.: GEOTARMEDIA, 2022-304 p. 8. Vascular diseases of the retina. Guide/Ed. A. Sheiman, A. Fawzi; Per. from English; Ed. I.A. Loskutova - GEOTAR-Media.- 2021-184c

9. Surgical diseases of the retina: a guide for doctors / ed. Masahito Ohji; lane from English edited by I.A. Loskutova.- Moscow: GEOTAR-Media, 2021.- 128c

Information support of the 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*)

б) Databases and search engines::

1. TUIS

2. Scientific electronic library <http://elibrary.ru/>

3. All the news of ophthalmology www.eyenews.ru

4. Russian ophthalmology online www.eyepress.ru

5. medical portal glazamed.ru

6. download books on ophthalmology <http://www.booksmed.com/oftalmologiya/>

Internet sources:

1. Electronic libraries (EL) of RUDN University and other institutions, to which university students have access on the basis of concluded agreements:

- RUDN Electronic Library System (RUDN ELS) <http://lib.rudn.ru/MegaPro/Web>
- EL "University Library Online" <http://www.biblioclub.ru>
- EL "Yurayt" <http://www.biblio-online.ru>
- EL "Student Consultant" www.studentlibrary.ru
- EL "Lan" <http://e.lanbook.com/>
- EL "Trinity Bridge"

2. Databases and search engines:

- electronic foundation of legal and normative-technical documentation <http://docs.cntd.ru/>
- Yandex search engine <https://www.yandex.ru/>
- Google search engine <https://www.google.ru/>
- Scopus abstract database <http://www.elsevierscience.ru/products/scopus/>

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

[Курс: Офтальмология для направления подготовки 31.05.03 «Стоматология» \(rudn.ru\)](#)

* 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.

4. 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 (competences in part) 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 Ophthalmology
department, PhD, professor**

position, department

Assistant professor of

Ophthalmology department, PhD

position, department

M.A. Frolov

name and surname

A.M. Frolov

name and surname

HEAD OF EDUCATIONAL DEPARTMENT:

**Head of Ophthalmology
department, PhD, professor**

position, department

M.A. Frolov

name and surname

HEAD OF HIGHER EDUCATION PROGRAMME:

**Head of the Department of
General Medical Practice**

position

N.V. Sturov

signature

name and surname