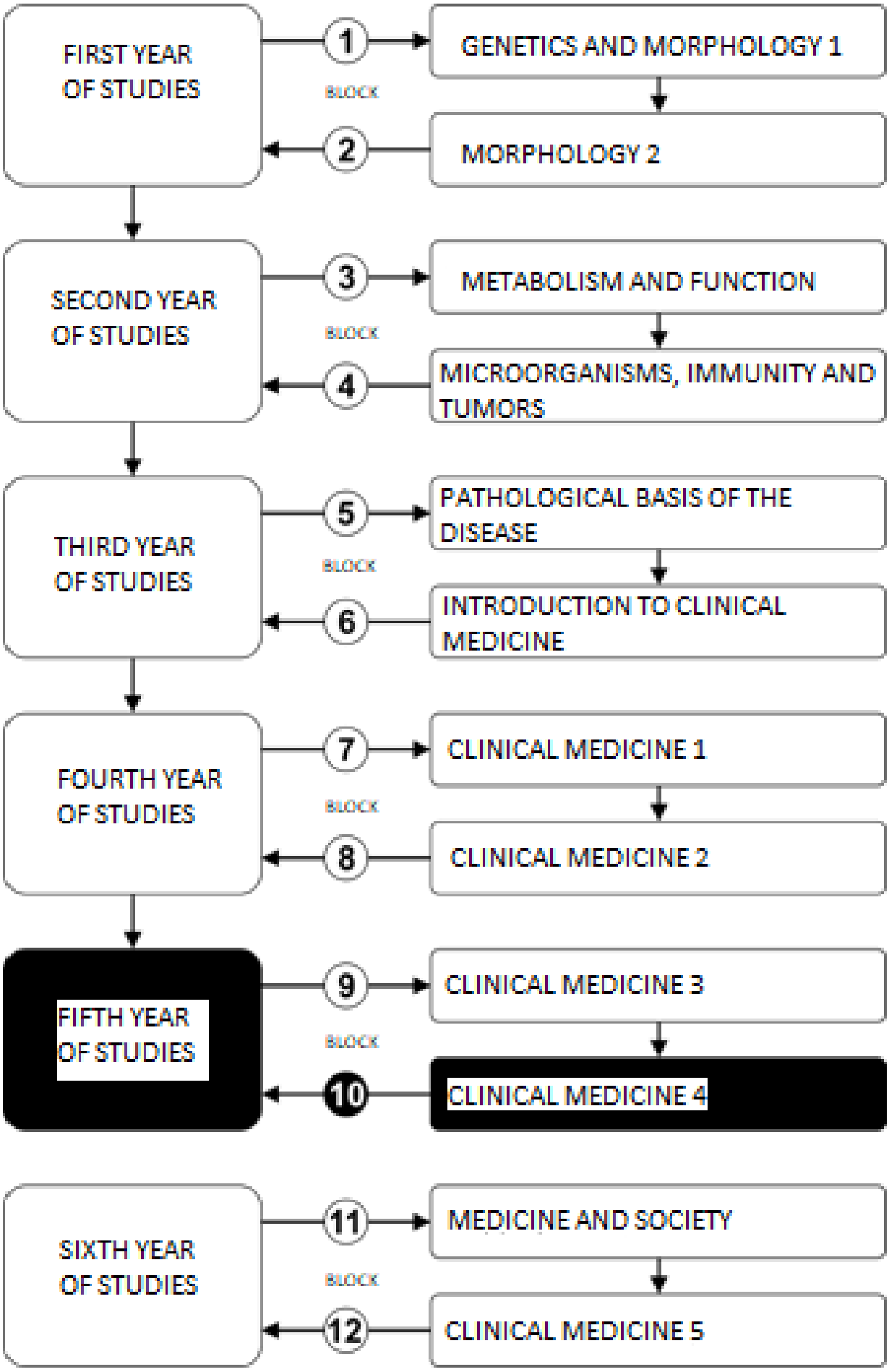
CLINICAL MEDICINE 4

FIFTH YEAR OF STUDIES

2024/2025

OPHTHALMOLOGY


FIRST YEAR OF STUDIES
1
BLOCK
GENETICS AND MORPHOLOGY 1
2
MORPHOLOGY 2
SECOND YEAR OF STUDIES
3
BLOCK
METABOLISM AND FUNCTION
4
MICROORGANISMS, IMMUNITY AND TUMORS
THIRD YEAR OF STUDIES
5
BLOCK
PATHOLOGICAL BASIS OF THE DISEASE
6
INTRODUCTION TO CLINICAL MEDICINE
FOURTH YEAR OF STUDIES
7
BLOCK
CLINICAL MEDICINE 1
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CLINICAL MEDICINE 2
FIFTH YEAR OF STUDIES
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CLINICAL MEDICINE 3
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CLINICAL MEDICINE 4
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BLOCK
MEDICINE AND SOCIETY
12
CLINICAL MEDICINE 5

Subject: IASM 53
Ophthalmology

OPHTHALMOLOGY

The subject is evaluated with 5 ECTS. There are 5 hours of active classes per week (3 hours of lectures and 2 hours of work in a small group).

TEACHERS AND ASSOCIATES:

No	Name and surname	E-mail adress	Vocation
1.	Mirjana A. Petrović Janićijević	mira.andreja@yahoo.com	Professor
2.	Sunčica Srećković	sunce.sun@yahoo.com	Professor
3.	Svetlana Jovanović	drsvetlanajovanovic@yahoo.com	Professor
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5.	Tatjana Šarenac Vulović	tvoja.tanja@yahoo.com	Associate Professor
6.	Dušan Todorović	drdusantodorovic@yahoo.com	Docent
7.	Jovana Srejović	srejovic.jovana@gmail.com	Facilitator
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9.	Katarina Ćupić	katarinac290@gmail.com	Facilitator

COURSE STRUCTURE:

Module 2	Name of the module	Weeks	Lectures weekly	Work in a small group per week	Teacher - in charge of the module
1	The Introduction of Ophthalmology. The Anterior segment of the Eye, the Uvea, the Retina and the Lens.	7	3	2	Mirjana A. Petrović Janićijević
2	… Optic nerve, Glaucoma, Binocular vision, Refractions, Orbital diseases and Eye Injuries.	8	3	2	Mirjana A. Petrović Janićijević
					Σ 45+30=75

ASSESSMENT - numerical:

The student masters, the subject in modules. The grade is equivalent to the number of points earned (see tables). Points are earned in three ways:

ACTIVITY DURING LESSONS one-semester: In this way, a student can earn up to 30 points, by taking 2 exam questions from that week's class in the last lesson of working in a small group, answering them and, in accordance with the demonstrated knowledge, gaining 0-2 points.

TESTS BY MODULE: In this way, the student can gain up to 30 points according to the attached module evaluation scheme.

FINAL (ORAL) EXAMINATION: In this way, the student can get 40 points, 8 points on the final skills test and 32 points on the oral exam. To pass the exam, the student must get more than 50% points on the final exam.
The final skills test requires the student to take an anamnesis, perform a clinical examination of the patient, interpret the findings, diagnose the patient (differential) and propose a therapeutic procedure. If the student does not get more than 50% of the points on the final skills test, he cannot take the oral part of the exam.
The oral part of the exam implies that the student orally answers four questions (each question is worth 0-8 points).
If the student does not get more than 50% points in the oral exam, he (she) has not passed the exam.

MODULE		**MAXIMUM POINTS**			
		Activity during classes	**Tests by modules**	**Final (oral) exam**	**Σ**
1	**Module 1**	14	14		28
2	**Module 2**	16	16		32
				40	40
Σ		**30**	**30**	**40**	**100**

CONSULTATIVE TEACHING:
Consultations can be scheduled with the subject head, Prof. dr. Mirjana A. Petrović Janićijević (mira.andreja@yahoo.com).

The final grade is formed as follows:

In order to pass the course, the student must obtain a minimum of 55 points and pass all modules.
To pass the module the student must:

1. Obtains more than 50% points in that module.
2. Acquires more than 50% of the points provided for the teaching activity in each module.
3. To pass the test from that module, i.e. to have more than 50% correct answers.

The number of points earned	Grade
0–50	**5**
51–60	**6**
61–70	**7**
71–80	**8**
81–90	**9**
91–100	**10**

TESTS BY MODULES

MODULE 1.

FINAL TEST
0-14 POINTS

EVALUATION
FINAL TEST
The test has 28 questions
Each question is worth 0.5 points

MODULE 2.

FINAL TEST
0-16 POINTS

EVALUATION
FINAL TEST
The test has 32 questions
Each question is worth 0.5 points

LITERATURE:

Module	The name of the textbook	Authors	Publisher	Library
1. Introduction to ophthalmology; anterior segment of the eye, uvea, retina and lens.	Ophthalmology (5^{th} edition)	Myron Y and Jay SD	London, 2019.	Have
2. Optic nerve, glaucoma, refractions, binocular vision, orbital diseases and eye injuries.	Clinical Ophthalmology (8^{th} edition)	Kanski JJ	Ofxord, United Kingdom, 2015. ISBN: 9780702055720	Have

All lectures are available on the website of the Faculty of Medical Sciences: www.medf.kg.ac.rs

THE PROGRAM:

FIRST MODULE: INTRODUCTION TO OPHTHALMOLOGY, ANTERIOR SEGMENT OF THE EYE, UVE, LENS AND RETINA

TEACHING UNIT 1 (FIRST WEEK):

INTRODUCTION TO OPHTHALMOLOGY. EMBRYOLOGY OF THE EYE. ANATOMY OF THE EYE. FUNCTIONAL DIAGNOSTIC METHODS IN OPHTHALMOLOGY.

3 hours of lectures	exercises for 2 hours
Basics of eye embryology - development of the organ of vision. Chronological course of early and later development of the anterior, intermediate, posterior segment of the eyeball, walls, auxiliary organs of the eye and optic nerve. General anatomical data. Functional tests in ophthalmology. Electrophysiological tests. Ultrasound diagnostics. Imaging techniques.	Skills: anamnesis - heteroanamnesis of an ophthalmological patient and techniques of ophthalmological examinations, optical means of magnification, types of lighting, apparatus - principle of operation, use of instruments. General anatomical data, visual acuity determination, tonometry, pachymetry, ophthalmoscopy, biomicroscope examination, exophthalmos measurement, eyeball motility test, visual field determination (confort method, computerized perimetry), color vision test. Ultrasound diagnostics (origin and characteristics of ultrasound waves A and B scan, indications), fluorescein angiography and imaging diagnostics.

TEACHING UNIT 2 (SECOND WEEK):

EYELIDS AND LACRIMAL APPARATUS - ANATOMY, HISTOLOGY, PHYSIOLOGY AND PATHOLOGY.

3 hours of lectures	exercises for 2 hours
Anatomy of the lids. Skin diseases of the eyelids: vascular disorders, allergic manifestations, bacterial infections, viral infections, fungal, parasitic and mixed infections - diagnosis and therapy. Diseases of the edges of the eyelids – blepharitis. Disorders of the shape and position of the eyelids. Eyelid tumors - benign, precancerous and malignant lesions. Diagnosis and therapy of eyelid diseases. Anatomy of the lacrimal apparatus. Tear secretion mechanism. "Teary" and "dry" eye syndrome. Diseases of the draining tear ducts. Inflammation of the lacrimal sacs. Diseases of the secretory part of lacrimal apparatus.	Skills: Techniques of clinical examination of eyelids. Ectropion of the eyelid, assisting with double ectropion of the upper eyelid using Desmar's ecarter. Examination of active and passive mobility of the eyelids. Acquaintance with ophthalmological surgical instruments and assisting with surgical interventions on the eyelids. Examination of the patency of the tear ducts, probing and probing of the tear ducts. Application of the ophthalmic therapy. Dacryocystorhinostomy - indications. Dry eye tests and interpretations. Application of local (topical) and systematic therapy in ophthalmology.

Tumors of the lacrimal apparatus. Diagnosis and therapy of the tear diseases device.	

TEACHING UNIT 3 (THIRD WEEK):

CONJUNCTIVA: ANATOMY, HISTOLOGY, PHYSIOLOGY AND PATHOLOGY. DIAGNOSIS AND THERAPY OF CONJUNCTIVAL DISEASES.

3 hours of lectures	exercises for 2 hours
Anatomy of the conjunctival unit. Red eye - blood effusion, swelling in ties. Differential diagnosis of conjunctival, ciliary and mixed hyperemia. Conjunctivitis of bacterial, viral, allergic origin. Conjunctivitis caused by chlamydia and the blepharoconjunctivitis. Conjunctivitis caused by fungi and parasites. Degenerative changes of the gymnasium. Conjunctival tumors - benign, precancerous and malignant lesions. Diagnosis and therapy of conjunctivitis diseases.	Skills: Clinical examination of the conjunctiva at biomicroscope with lid ectropion. Getting to know the clinical characteristics of the conjunctiva, differential diagnosis of conjunctivitis, taking a conjunctival swab, interpreting the results, conjunctival scarping, conjunctival biopsy, application of ophthalmic therapy, assisting with subconjunctival and subtenonial injections. Familiarity with ophthalmic surgical instruments and assisting with surgical interventions on the eyelids and conjunctiva. Specific hyposensitization in allergic diseases of the conjunctiva.

TEACHING UNIT 4 (FOURTH WEEK):

CORNEA AND SCLERA: ANATOMY, HISTOLOGY, PHYSIOLOGY AND PATHOLOGY. THE MOST COMMON DISEASES. DIAGNOSTIC AND THERAPEUTIC PROCEDURES.

3 hours of lectures	exercises for 2 hours
Anatomy and morphology of the cornea. Semiology of pathological changes in corneas. Keratitis and their classification. Disorders in the size and curvature of the cornea. Corneal dystrophies and degenerations. Corneal operations (types). Tumors of the limbal region - benign, malignant precancerous lesions. Diagnosis and therapy of corneal diseases. Anatomy, morphology and physiology of the sclera. The most common diseases and congenital anomalies of the sclera. Surgical interventions on the sclera. Diagnosis and therapy of diseases sclera.	Skills: Examination of the cornea and sclera on a biomicroscope. Getting to know the most common diseases of the cornea and sclera, differential diagnosis. Performing staining of the tear film with fluorescein, examining corneal sensitivity, performing the Schirmer and TBUT test (tear film break-up time). Application of ophthalmic therapy. Work on the autokeratorefractometer, interpretation of keratometric findings and corneal topography. Familiarity with surgical interventions on the cornea (keratoplasty, surgical correction of refractive errors - refractive surgery). Examination of the depth and content of the anterior chamber of the eye on a biomicroscope. Application of intravitreal injections, cyclocryotherapy and pterygium - operations in the operating room.

TEACHING UNIT 5 (FIFTH WEEK):

UVEA: ANATOMY, HISTOLOGY, PHYSIOLOGY AND PATHOLOGY. FUNCTIONAL DIAGNOSIS AND THERAPY OF CONDITIONAL DISEASES.

3 hours of lectures	exercises for 2 hours
Anatomy of the uvea. Clinical characteristics of the iris. Pathological changes of uvea. Classification and division of uveitis (anterior, intermediate, posterior, neurouveitis, panuveitis). Clinical presentation of uveitis, diagnosis, differential diagnosis, complications and therapy. Degenerative changes of uvea. Tumors of the uvea. Congenital anomalies of the uvea.	Skills: Clinical examination of the iris under a biomicroscope, assessment of the depth and content of the anterior chamber. Examination using a Goldman prism with three mirrors, panfundoscope, indirect ophthalmo-biomicroscopy with the help of magnifiers of different diopters. Examination of the shape and size of the pupils. Examination of pupil reactions to light (direct, indirect) on convergence and accommodation. Examining the area of the pupil by illumination and parallax shift - parallax. Ophthalmoscopy in maximal, artificial mydriasis and with the clinical analysis.

TEACHING UNIT 6 (SIXTH WEEK):

LENS AND VITREOUS BODY: ANATOMY, HISTOLOGY, PHYSIOLOGY AND PATHOLOGY. FUNCTIONAL DIAGNOSTICS AND MODERN THERAPY MODULES.

3 hours of lectures	exercises for 2 hours
Embryology and anatomy, composition and structure of the lens. Clinical characteristics and classification of cataracts. Types of cataract surgery in children and adults. Aphakia, pseudophakia - clinical signs and types of aphakia corrections. Secondary cataracts, treatment - YAG laser capsulotomy. Disturbance of the position of the lens (subluxation, luxation.) Anatomy of the vitreous body. Pathological changes of the vitreous body - degenerative changes (mousch wolantes), vitreous flaking, opacification of the vitreous body in uveitis, abscesses vitreous, bleeding in the vitreous to body, and parasitic affection of the vitreous body.	Skills: Getting to know the clinical signs of cataracts, Examination the techniques. Getting to know the types of surgical interventions. Treatment of secondary cataract - YAG laser capsulotomy. Importance and techniques of examination of the vitreous body. Ophthalmoscopy with +10.0 D and using a Goldman prism with three mirrors. Ultrasound diagnosis of diseases of the vitreous body in selected clinical cases. Familiarity with surgical intervention of the vitreous body - pars plana, vitrectomy (in the operating room).

TEACHING UNIT 7 (SEVENTH WEEK):

RETINA: ANATOMY, HISTOLOGY, PHYSIOLOGY AND PATHOLOGICAL CONDITIONS.
FUNCTIONAL DIAGNOSIS AND THERAPY OF RETINAL DISEASES.

3 hours of lectures	exercises for 2 hours
Anatomy and physiology of the retina. Clinical methods of retinal examination. Clinical characteristics of normal fundus findings. Basic pathological changes of the retina – edema, hemorrhages, exudates and scar changes. Diseases of the retina - inflammatory processes, changes in arterial hypertension, occlusive syndromes, vasculitis, diabetic retinopathy, retrolental fibroplasia and retinal changes in blood diseases. Degenerative changes of the retina. Retinal detachment - clinical, diagnosis and therapy. Retinal tumors - retinoblastoma and the other. Disorders in the development of the retina. Clinical picture, diagnosis, differential diagnosis, therapy and prognosis of retinal diseases. Prevention of retinal diseases.	Skills: Familiarity with ophthalmoscopically normal fundus findings in maximal mydriasis. Examination using a Goldman prism with three mirrors, panfundoscope, indirect ophthalmo-biomicroscopy with the help of magnifiers of different diopters. Getting to know the work of the fundus camera with the interpretation of pathological conditions on the retina. Getting to know the importance of performing fluorescein angiography in the diagnosis of retinal diseases. Use of Amsler's network in the diagnosis of macular diseases. Indications for laser photocoagulation of the retina. Imaging techniques of retinal examination OCT and OCT angiography. Getting to know the indications and application technique of anti-VEGF therapy. Indications for performance and familiarization with the technique of pars plana-vitrectomy in retinal diseases. Getting to know the operation of retinal ablation surgery.

SECOND MODULE: OPTIC NERVE, GLAUCOMA, REFRACTIONS, BINOCULAR VISION, STRABISMUS, DISEASES OF THE ORBIT, TUMORS AND INJURIES OF THE EYE.

TEACHING UNIT 8 (EIGHTH WEEK):

OPTIC NERVE: ANATOMY, HISTOLOGY, PHYSIOLOGY AND PATHOLOGY.
NEURO OPHTHALMOLOGY - CLINICAL, DIAGNOSTIC AND THERAPEUTIC APPROACHES.

3 hours of lectures	exercises for 2 hours
Anatomy of the optic nerve and optic pathway. Inflammation of the optic nerve, clinical picture, diagnostics, differential diagnostics, therapy and prognosis. Congestive papilla and neuro-ophthalmic syndromes - clinical picture, diagnosis, therapy and prognosis. Atrophy of the optic nerve - etiological division, clinical findings, diagnosis and therapy. Amaurosis fugax - etiopathogenesis, clinical imaging, diagnosis, therapy and prognosis.	Skills: Optic nerve examination techniques - ophthalmoscopy in direct and indirect imaging. Familiarization with the device and performance of static automatic perimetry, interpretation of perimetry findings. Getting to know the importance of performing VEP in optic nerve diseases. Clinical methods of testing color vision with differential diagnosis of color anomalies. Fluorescence angiography and modern imaging techniques in the diagnosis of optic nerve diseases.

Visual impairment - hemianopsia, localization lesions, diagnosis and therapy. Tumors of the optic nerve - clinical status, diagnosis, therapy and prognosis. Anomalies of the papilla of the optic nerve. Injuries of the optic nerve - conservative and surgical therapy, complications and forecasts.	

TEACHING UNIT 9 (NINTH WEEK):

GLAUCOMA: ANATOMY OF THE ANTERIOR CHAMBER ANGLE, PHYSIOLOGY OF THE AQUEOUS,
DIVISION AND PATHOLOGY OF GLAUCOMA.
EARLY DIAGNOSIS AND THERAPY OF GLAUCOMA DISEASE.

3 hours of lectures	exercises for 2 hours
Definition of glaucoma as an optical neuropathy. Anatomy of the angle of the anterior chamber. Physiology, secretion and elimination chamber fluids - aqueous humor (homeostasis mechanisms). Division of glaucoma according to etiopathogenesis - congenital glaucoma, primary glaucoma open and closed angle, secondary glaucoma. Differential diagnosis of acute glaucoma and acute iridocyclitis. Medical, laser, surgical (fistulization operations, MIGS, drainage implants) and combined treatment of glaucoma therapy.	Skills: Preparation of patients and examination of anterior chamber angle angle-gonioscopy. Interpretation of clinical findings. Assessment of the depth of the anterior chamber. Techniques: digital and instrumental methods of measuring eye pressure - tonometry. Pachymetry - practical performance and analysis of the obtained values. Interpretation of daily curves in 24-hour IOP monitoring in glaucoma. Familiarization with the device and performance of static automatic perimetry, interpretation of perimetry findings in glaucoma patients. Familiarity with laser and surgical techniques of glaucoma treatment (trabeculectomies, laser trabeculoplasty, laser iridotomy, MIGS-surgical techniques). Ophthalmoscopy with analysis of morphological changes on the papilla of the optic nerve in glaucoma. Imaging diagnosis of glaucoma (OCT, HRT).

TEACHING UNIT 10 (TENTH WEEK):

REFRACTION AND ACCOMMODATION: BASICS OF REFRACTION OF LIGHT, VISUAL ACUITY, DIOPTRICS OF THE EYE, CORRECTIONS OF REFRACTION DEFECTS.

3 hours of lectures	exercises for 2 hours
Basics of refraction (laws of refraction light) and types of optical lenses. Disadvantages of the lens. Dioptric eye and refractive errors (emmetropia, ametropia, astigmatism). Visual acuity - subjective and objective methods of determining refraction. Skiasopias and refractometry-correlation and	Skills: Subjective methods of determining visual acuity. Preparation of the patient for the performance of objective refraction using the skiascopic method, use of mydriatics/cycloplegics. Performance of keratometry, auto keratorefractometry,

treatment. Optokinetic nystagmus - origin and meaning. Accommodation and accommodation disorders - senile farsightedness, paralysis of accommodation and accommodation spasm. Glasses, contact lenses, intraocular lenses - types, indications, advantages and disadvantages. Advantages and disadvantages, indications and contraindications of modern refractive surgery.	interpretation of results, prescription of distance and near glasses. Types of refractive anomalies, types of corrective glasses for correcting refractive anomalies. Types of contact lenses, their maintenance and prescription. Accommodation and convergence disorders. Refractive surgery - indications and contraindications.

TEACHING UNIT 11 (ELEVENTH WEEK):

BINOCULAR VISION AND DISORDERS OF ITS COMPONENTS. ANATOMY AND FUNCTIONS OF BULBOMOTORS.

3 hours of lectures	exercises for 2 hours
Binocular vision, elements - definition. Bulbomotor anatomy and function. Examination of the mobility of the eyeballs, (motility). Primary position. Oculomotor balance, examination and disorders - orthophoria, heterophoria, heterotropia. Sensory component of binocular vision - simultaneous perception, fusion reflex and stereoscopic vision. Disorders in the development of binocular Vision - neutralization, abnormal retinal correspondence, amblyopia - low vision. Heterotropia - early strabismus, late strabismus, divergent strabismus, diagnosis, therapy and prognosis. Occlusion of the leading eye, atropine cycloplegia, orthopticopleoptics, surgical treatment of strabismus.	Skills: Preparation and determination of visual acuity in children. Use of mydriatics/cycloplegics. Performing keratometry, autokeratorefractometry and skiascopia. Familiarization with working on the synoptophore. Exercises on pleoptic-orthoptic devices for diagnosis and therapy of strabismus. Techniques for performance and interpretation of tests for examining stereoscopic vision, as an element of binocular vision. Examination of eyeball motility in children, as an element of binocular vision. Treatment of low vision in children and adults. Surgical treatment of strabismus.

TEACHING UNIT 12 (TWELFTH WEEK):

CONCOMITANT AND PARALYTIC STRABISMUS - CLINICAL CHARACTERISTICS AND DIFFERENCES. NYSTAGMUS - CLASSIFICATION AND ANALYSIS.

3 hours of lectures	exercises for 2 hours
Characteristics of paralytic strabismus. Differential diagnosis between concomitant and paralytic strabismus. Etiology of paralytic strabismus. Etiology, inspection methodology, coverage-disclosure test, examination muscle mobility, tests diplopia-candle test and Hess-Lankester test.	Skills: Performance and interpretation of the Hess-Lankester test in the diagnosis of paralytic strabismus in children and adults. Diagnostic tests and therapeutic procedures. Diagnosis of nystagmus, differentiation of different types of nystagmus.

Treatment and prognosis of paralytic strabismus. Nystagmus - definition and clinical division. Division according to the cause of occurrence: ophthalmological, otological and neurological.	

TEACHING UNIT 13 (THIRTEENTH WEEK):

EYE INJURIES: CLASSIFICATION OF INJURIES, ETIOLOGY, CLINICAL PICTURE, DIAGNOSIS AND THERAPY. CHEMICAL, CONTUSIONS, PERFORATIVE AND WAR INJURIES OF THE EYE.

3 hours of lectures	exercises for 2 hours
Mechanical eye injuries - contusion injuries of the eyeball. Orbital floor injuries: diagnostics, differential diagnostics, clinical picture, therapy and prognosis. Penetrating and perforating injuries of the eyeball with and without the presence of a foreign body in the eye. Avulsion of the optic nerve. Diagnostics, therapy and prognosis. Surgical principles of treatment of perforative and penetrating injuries of the eyeball. Sympathetic ophthalmia and sympathetic irritation. Chemical injuries: symptomatology and division according to the severity of the clinical picture. First aid, therapy and prognosis. Eye burns - etiology, clinical symptomatology and treatment. Damage to the eye by ultraviolet i infrared rays. Sunlight damage to the macula. Eye damage caused by electricity. Damage to the eye by ionizing radiation. War injuries of the eye - characteristics and frequency, etiology and classification. Eye injuries caused by an explosion nuclear bombs. Eye injuries caused by war poisons - etiology, clinical picture, diagnostics, differential diagnosis, first aid, treatment and prognosis. Personal, collective and other protection i prevention of eye injuries.	Skills: Clinical examination in contusion, perforating, chemical and war injuries of the eye. Providing first aid for eye injuries, eye irrigation, eyelid ectropion for chemical eye injuries. Methods of functional testing of the injured eye. Application of ophthalmological therapy. Getting to know the surgical principles of treating perforative and penetrating eye injuries. Prevention and treatment of early and late complications of eye injuries. Management of late complications of eye injury.

TEACHING UNIT 14 (FOURTEENTH WEEK):

DISEASES OF THE ORBIT: INFLAMMATORY AND OTHER DISEASES OF THE ORBIT, DIAGNOSIS AND TREATMENT. EYE TUMORS: DIAGNOSIS AND TREATMENT.

3 hours of lectures	exercises for 2 hours
Anatomy of the eye socket, composition and position of the eyeball. Enophthalmos, exophthalmos (protrusio bulbi) - etiopathogenesis.	Skills: Ultrasound diagnosis of orbital pathology. Exophthalmometry technique according to Hertel. Significance of x-ray, CT, NMR diagnostics in

Orbital inflammation, diagnosis and therapy. Tumors of the eye socket and eye - clinical picture, diagnosis, differential diagnosis, therapy and prognosis.	orbital pathology. Multidisciplinary approach in the therapy and diagnosis of orbital pathology. Eye tumors, diagnostic and therapeutic possibilities.

TEACHING UNIT 15 (FIFTEENTH WEEK):

THERAPEUTIC PROCEDURES IN OPHTHALMOLOGY.
HEREDITARY DISEASES OF THE EYE: KARYOGRAM, GENETIC DIAGNOSIS, THERAPY, PROGNOSIS, PREVENTION.

3 hours of lectures	exercises for 2 hours
Therapeutic procedures in ophthalmology - application of local ophthalmic therapy, contact lenses, therapeutic lenses, prostheses. Applications of subconjunctival, subtenonial, parabulbar and intravitreal injections. Types of eye prostheses, maintenance, replacement. Hereditary eye diseases - types of inheritance And kariogram. Forms of inheritance - monogenetic, polygenetic and multifactorial. The most common genetic diseases in ophthalmology and associated clinical syndromes with blindness. Diagnostics, prognosis and possible types therapy. The importance of genetic counseling, prenatal diagnostics and control of all relative of the patient.	Skills: Acquaintance with methods of medication application in ophthalmological practice. Application of drops, suspension, ointments, assisting in the application of subconjunctival injections, application of bandages in ophthalmological patients. Application of contact lenses, removal of partial and complete eye prostheses, their maintenance. History of hereditary eye diseases. Getting to know the karyogram. Acquaintance with functional tests of importance for the diagnosis and differential diagnosis of hereditary eye diseases. The importance of prevention, genetic counseling and active control of all relatives. Available therapy for hereditary eye diseases.

LECTURE SCHEDULE

Institute for Emergency Medical Assistance

MONDAY

11:45 - 14:00

SCHEDULE OF EXERCISES

CLINIC FOR OPHTHALMOLOGY

MONDAY

14:15 - 15:45

LESSON SCHEDULE FOR THE SUBJECT OF OPHTHALMOLOGY

Module	Week	Type	Method unit name	Teacher
1	1	**L**	Introduction to Ophthalmology. Embryology of the eye. Anatomy of the eye. Functional diagnostic methods in ophthalmology.	Prof. dr Mirjana A. Janićijević Petrović
1	1	**E**	Taking anamnesis - heteroanamnesis of an ophthalmological patient. General anatomical data. Techniques of ophthalmological examinations. Determination of visual acuity, tonometry, pachymetry, ophthalmoscopy, clinical examinations on a biomicroscope, measurement of exophthalmos, examination of eyeball motility, color vision, ultrasound diagnostics. Familiarity with special ophthalmological examinations (perimetry, adaptation to darkness, ERG, VEP and others), fluorescein angiography, imaging diagnostics.	Prof. dr Mirjana Janićijević Petrović Prof. dr Sunčica Srećković Prof. dr Svetlana Jovanović Prof. dr Nenad Petrović Prof. dr Tatjana Šarenac Vulović Doc. dr Dušan Todorović dr Jovana Srejović dr Mihailo Jovanović dr Katarina Ćupić
1	2	**L**	Eyelids and lacrimal apparatus - anatomy, histology, physiology and pathology.	Doc. dr Dušan Todorović
1	2	**E**	Techniques of clinical examination of eyelids. Ectropion of the eyelid, assisting with double ectropion of the upper eyelid using Desmar's ecarter. Examination of active and passive mobility of the eyelids. Acquaintance with ophthalmological surgical instruments and assisting with surgical interventions on the eyelids and examination of the permeability of the tear ducts, probing and probing of the tear ducts. Application of ophthalmic therapy. Dacryocystorhinostomy - indications. Dry eye tests and interpretation of results.	Prof. dr Mirjana Janićijević Petrović Prof. dr Sunčica Srećković Prof. dr Svetlana Jovanović Prof. dr Nenad Petrović Prof. dr Tatjana Šarenac Vulović Doc. dr Dušan Todorović dr Jovana Srejović dr Mihailo Jovanović dr Katarina Ćupić
1	3	**L**	Conjunctiva: anatomy, histology, physiology, pathology. Diagnosis and therapy of conjunctival diseases.	Doc. dr Dušan Todorović

LESSON SCHEDULE FOR THE SUBJECT OF OPHTHALMOLOGY

Module	Week	Type	Method unit name	Teacher
1	3	**E**	Clinical examination of the conjunctiva at biomicroscope with lid ectropion. Getting to know the clinical characteristics of the conjunctiva, differential diagnosis of conjunctivitis, taking a conjunctival swab, conjunctival biopsy, application of ophthalmic therapy, assisting in the administration of subconjunctival, subtenonial injections. Familiarity with ophthalmic surgical instruments and assisting with surgical interventions on the eyelids and conjunctiva. Specific hyposensitization in allergic diseases of the conjunctiva.	Prof. dr Mirjana Janićijević Petrović Prof. dr Sunčica Srećković Prof. dr Svetlana Jovanović Prof. dr Nenad Petrović Prof. dr Tatjana Šarenac Vulović Doc. dr Dušan Todorović dr Jovana Srejović dr Mihailo Jovanović dr Katarina Ćupić
1	4	**L**	Cornea and sclera: anatomy, histology, physiology, pathology. The most common diseases: diagnostic and therapeutic procedures.	Prof. dr Tatjana Šarenac Vulović
1	4	**E**	Examination of the cornea and sclera on a biomicroscope. Getting to know the most common diseases of the cornea and sclera, differential diagnosis. Carrying out staining of the tear film with fluorescein, examination of corneal sensitivity, Schirmer and TBUT test. Application of ophthalmic therapy. Work on the autokeratorefractometer, interpretation of keratometric findings. Corneal topography. Familiarity with surgical interventions on the cornea (keratoplasty, surgical correction of refractive errors - basic principles of refractive surgery).	Prof. Dr Mirjana Janićijević Petrović Prof. dr Sunčica Srećković Prof. dr Svetlana Jovanović Prof. dr Nenad Petrović Prof. dr Tatjana Šarenac Vulović Doc. dr Dušan Todorović dr Jovana Srejović dr Mihailo Jovanović dr Katarina Ćupić
1	5	**L**	Uvea: anatomy, histology, physiology and pathology. Functional diagnosis and therapy of uveal diseases.	Prof. dr Svetlana Jovanović
1	5	**E**	Clinical examination of the iris on a biomicroscope, assessment of the depth and content of the anterior chamber. Examination using a Goldman prism with three mirrors, panfundoscope, indirect ophthalmo-biomicroscopy with the help of magnifiers of different diopters. Examination of the shape, size and equality of the pupils. Examining reactions of the pupil to light (direct, indirect), to convergence and accommodation. Examining the area of the pupil by illumination and parallax shift - parallax. Ophthalmoscopy in maximal, artificial mydriasis with clinical analysis.	Prof. Mirjana Janićijević Petrović Prof. dr Sunčica Srećković Prof. dr Svetlana Jovanović Prof. dr Nenad Petrović Prof. dr Tatjana Šarenac Vulović Doc. dr Dušan Todorović dr Jovana Srejović dr Mihailo Jovanović dr Katarina Ćupić
1	6	**L**	Lens and Vitreous Body: Anatomy, Histology, Physiology and Pathology. Functional diagnostics and modern therapeutic modules.	Prof. dr Tatjana Šarenac Vulović

LESSON SCHEDULE FOR THE SUBJECT OF OPHTHALMOLOGY

Module	Week	Type	Method unit name	Teacher
1	6	**E**	Getting to know the clinical signs of cataracts, examination techniques. Getting to know the types of surgical interventions. Treatment of secondary cataract - YAG laser capsulotomy. Significance and techniques of vitreous examination. Ultrasound diagnosis of diseases of the vitreous body in selected clinical cases.	Prof. dr Mirjana Janićijević Petrović Prof. dr Sunčica Srećković Prof. dr Svetlana Jovanović Prof. dr Nenad Petrović Prof. dr Tatjana Šarenac Vulović Doc. dr Dušan Todorović dr Jovana Srejović dr Mihailo Jovanović dr Katarina Ćupić
1	7	**L**	Retina: anatomy, histology, physiology and pathological conditions. Functional diagnosis and therapy of retinal diseases.	Prof. dr Nenad Petrović
1	7	**E**	Familiarity with ophthalmoscopically normal fundus findings in maximal mydriasis. Examination using a Goldman prism with three mirrors, panfundoscope, indirect ophthalmo-biomicroscopy with the help of magnifiers of different diopters. Getting to know the work of the fundus camera with the interpretation of pathological conditions on the retina. Getting to know the importance of performing fluorescein angiography in the diagnosis of retinal diseases. Use of Amsler's network in the diagnosis of macular diseases. Indications for laser photocoagulation of the retina. Imaging techniques of retinal examination OCT, OCT, angiography. Getting to know the indications and technique of anti-VEGF application.	Prof. dr Mirjana Janićijević Petrović Prof. dr Sunčica Srećković Prof. dr Svetlana Jovanović Prof. dr Nenad Petrović Prof. dr Tatjana Šarenac Vulović Doc. dr Dušan Todorović dr Jovana Srejović dr Mihailo Jovanović dr Katarina Ćupić
2	8	**L**	Optic nerve: anatomy, histology, physiology and pathology. Neuroophthalmology - clinical, diagnostic and therapeutic aspects.	Prof. dr Mirjana A. Janićijević Petrović
2	8	**E**	Optic nerve examination techniques - ophthalmoscopy in direct and indirect imaging. Familiarization with the device and performance of static automatic perimetry, interpretation of perimetry findings. Getting to know the importance of performing VEP in optic nerve diseases. Clinical methods of testing color vision with differential diagnosis of color anomalies. Fluorescence angiography and modern imaging techniques in the diagnosis of optic nerve diseases.	Prof. dr Mirjana Janićijević Petrović Prof. dr Sunčica Srećković Prof. dr Svetlana Jovanović Prof. dr Nenad Petrović Prof. dr Tatjana Šarenac Vulović Doc. dr Dušan Todorović dr Jovana Srejović dr Mihailo Jovanović dr Katarina Ćupić
		3TM	**FINAL TEST OF MODULE 1**	

LESSON SCHEDULE FOR THE SUBJECT OF OPHTHALMOLOGY

Module	Week	Type	Method unit name	Teacher
2	9	**L**	Glaucoma: anatomy of the chamber angle, physiology of the aqueous humor, classification and pathology of glaucoma. Early diagnosis and optimal treatment of glaucoma.	Prof. dr Sunčica Srećković
2	9	**E**	Preparation of patients and examination of anterior chamber angle-gonioscopy. Interpretation of clinical findings. Assessment of the depth of the anterior chamber. Techniques, digital and instrumental methods of measuring eye pressure - tonometry. Pachymetry - practical performance and clinical analysis. Interpretation of daily curves in 24-hour IOP monitoring in glaucoma. Familiarity with the device and performance of static automatic perimetry, interpretation of perimetry findings in glaucoma patients Familiarity with laser and surgical techniques for glaucoma treatment (trabeculectomy, laser trabeculoplasty, laser iridotomy MIGS-surgical technique). Ophthalmoscopy with analysis of morphological changes on the papilla of the optic nerve in glaucoma. Imaging diagnosis of glaucoma (OCT, HRT).	Prof. dr Mirjana Janićijević Petrović Prof. dr Sunčica Srećković Prof. dr Svetlana Jovanović Prof. dr Nenad Petrović Prof. dr Tatjana Šarenac Vulović Doc. dr Dušan Todorović dr Jovana Srejović dr Mihailo Jovanović dr Katarina Ćupić
2	10	**L**	Refraction and accommodation: basics of light refraction, visual acuity, eye dioptric, correction of refractive errors.	Prof. dr Sunčica Srećković
2	10	**E**	Subjective methods of determining visual acuity. Preparation of the patient for the performance of objective refraction using the skiascopic method, use of mydriatics/cycloplegics. Performance of keratometry, autokeratorefractometry, interpretation of results, prescription of distance and near glasses. Types of refractive anomalies, types of corrective glasses for correcting refractive anomalies. Types of contact lenses, their maintenance and prescribing. Accommodation and convergence disorders. Refractive surgery - indications and contraindications.	Prof. dr Mirjana Janićijević Petrović Prof. dr Sunčica Srećković Prof. dr Svetlana Jovanović Prof. dr Nenad Petrović Prof. dr Tatjana Šarenac Vulović Doc. dr Dušan Todorović dr Jovana Srejović dr Mihailo Jovanović dr Katarina Ćupić
2	11	**L**	Binocular vision and disorders of its components. Anatomy and functions of the bulbomotor.	Prof. dr Nenad Petrović

LESSON SCHEDULE FOR THE SUBJECT OF OPHTHALMOLOGY

Module	Week	Type	Method unit name	Teacher
2	11	**E**	Preparation and determination of visual acuity in children. Use of mydriatics/cycloplegics. Performing keratometry, autokeratorefractometry and skiascopy. Familiarization with working on the synoptophore. Exercises on pleoptic-orthoptic devices for diagnosis and therapy of strabismus. Techniques for performance and interpretation of tests for examining stereoscopic vision, as an element of binocular vision. Examination of eyeball motility in children, as an element of binocular vision. Treatment of low vision in children and adults.	Prof. Mirjana Janićijević Petrović Prof. dr Sunčica Srećković Prof. dr Svetlana Jovanović Prof. dr Nenad Petrović Prof. dr Tatjana Šarenac Vulović Doc. dr Dušan Todorović dr Jovana Srejović dr Mihailo Jovanović dr Katarina Ćupić
2	12	**L**	Paralytic strabismus - clinical characteristics. Nystagmus - classification and analysis.	Prof. dr Nenad Petrović
2	12	**E**	Performance and interpretation of the Hess-Lankester test in diagnosis of paralytic strabismus in children and adults. Diagnostic tests and therapeutic procedures. Diagnosis of nystagmus, differentiation of different types of nystagmus.	Prof. dr Mirjana Janićijević Petrović Prof. dr Sunčica Srećković Prof. dr Svetlana Jovanović Prof. dr Nenad Petrović Prof. dr Tatjana Šarenac Vulović Doc. dr Dušan Todorović dr Jovana Srejović dr Mihailo Jovanović dr Katarina Ćupić
2	13	**L**	Eye injuries: classification of injuries, etiology, clinical picture, diagnosis and therapy. Chemical, contusion, perforating and war injuries of the eye.	Prof. dr Svetlana Jovanović
2	13	**E**	Clinical examination of contusion, perforating, chemical and war injuries of the eye. Providing first aid for eye injuries, eye irrigation, eyelid ectropion for chemical eye injuries. Methods of functional testing of the injured eye. Application of ophthalmological therapy. Getting to know the surgical principles of treating perforative and penetrating eye injuries. Prevention and treatment of early and late complications of eye injuries. Management of late complications of eye injury.	Prof. Mirjana Janićijević Petrović Prof. dr dr Sunčica Srećković Prof. dr Svetlana Jovanović Prof. dr Nenad Petrović Prof. dr Tatjana Šarenac Vulović Doc. dr Dušan Todorović dr Jovana Srejović dr Mihailo Jovanović dr Katarina Ćupić

LESSON SCHEDULE FOR THE SUBJECT OF OPHTHALMOLOGY

Module	Week	Type	Method unit name	Teacher
2	14	**L**	Diseases of the orbit: inflammatory and other diseases of the orbit, diagnosis and treatment. Eye tumors: diagnosis and treatment.	Prof. dr Tatjana Šarenac Vulović
2	14	**E**	Ultrasound diagnosis of orbital pathology. Exophthalmometry technique according to Hertel. Significance of x-ray, CT, NMR diagnostics in orbital pathology. Multidisciplinary approach in the therapy and diagnosis of orbital pathology. Eye tumors, diagnostic and therapeutic possibilities.	Prof. dr Mirjana Janićijević Petrović Prof. dr Sunčica Srećković Prof. dr Svetlana Jovanović Prof. dr Nenad Petrović Prof. dr Tatjana Šarenac Vulović Doc. dr Dušan Todorović dr Jovana Srejović dr Mihailo Jovanović dr Katarina Ćupić
2	15	**L**	Therapeutic procedures in ophthalmology. Hereditary eye diseases: kariogram, genetic diagnosis, therapy, prevention, prognosis.	Doc. dr Dušan Todorović
2	15	**E**	Acquaintance with methods of medication application in ophthalmological practice. Application of drops, suspension, ointments, assisting in the application of subconjunctival injections, application of bandages in ophthalmological patients. Application of contact lenses, removal of partial and complete eye prostheses and their maintenance. History of hereditary eye diseases. Getting to know the karyogram. Acquaintance with functional tests of importance for the diagnosis and differential diagnosis of hereditary eye diseases. The importance of prevention, genetic counseling and active control of all relatives. Available therapy for hereditary eye diseases.	Prof. dr Mirjana Janićijević Petrović Prof. dr Sunčica Srećković Prof. dr Svetlana Jovanović Prof. dr Nenad Petrović Prof. dr Tatjana Šarenac Vulović Doc. dr Dušan Todorović dr Jovana Srejović dr Mihailo Jovanović dr Katarina Ćupić
		3TM	**FINAL TEST OF MODULE 1**	
		E	**REMEDIAL MODULE, DRAWING OF THE EXAMINATION COMMITTEE (June deadline)**	
		E	**FINAL SKILLS EXAM AND ORAL EXAM (June deadline)**	
		E	**FINAL SKILLS EXAM AND ORAL EXAM (June deadline)**	

Committees for taking the final skills and oral exam

Commission 1:

1. Prof. dr. Sunčica Srećković, president of the examination committee
2. Prof. dr. Nenad Petrović, member
3. Prof. dr. Tatjana Šarenac Vulović, member
4. dr. Jovana Srejović, variable member
5. dr. Mihailo Jovanović, variable member

Commission 2:

1. Prof. dr. Mirjana Janićijević Petrović, president of the examination committee
2. Prof. dr. Svetlana Jovanović, member
3. Doc. dr. Dušan Todorović, member
4. dr. Jovana Srejović, variable member
5. dr. Katarina Ćupić, variable member

EXAM QUESTIONS IN OPHTHALMOLOGY IASM

FIRST GROUP OF QUESTIONS

1. ANATOMICAL PARTS OF THE EYE ORIGINATING FROM NEUROECTODERMS
2. ANATOMICAL PARTS OF THE EYE ORIGINATING FROM THE COVERING ECTODERM
3. ANATOMICAL PARTS OF THE EYE ORIGINATING FROM THE MESODERM
4. DRUG THERAPY OF EYE DISEASES: METHODS OF DRUG APPLICATION, PENETRATION AND ELIMINATION
5. ANATOMY OF THE EYELIDS
6. CONGENITAL ANOMALIES OF THE EYELIDS
7. DISORDERS OF THE POSITION OF THE EYELIDS
8. DISORDER OF MOBILITY OF THE EYELIDS
9. ALLERGIC MANIFESTATIONS ON THE EYELIDS
10. BACTERIAL INFECTIONS OF THE EYELIDS
11. VIRAL AND PARASITIC INFECTIONS OF THE EYELIDS
12. INFECTIONS OF THE EDGE OF THE EYELIDS
13. ANATOMY OF THE LACRIMAL GLAND AND LACRIMAL TRACT
14. TEAR FILM
15. TESTING METHODS OF THE LACRIMAL APPARATUS
16. DISEASES OF THE LACRIMAL GLAND
17. DISEASES OF THE DRAINING PATHWAYS
18. DISEASES OF THE LACRIMAL SAC IN NEWBORN INFANTS
19. DRY EYE - ETIOLOGY, PATHOGENESIS AND TREATMENT
20. ANATOMICAL ELEMENTS, HISTOLOGICAL STRUCTURE AND FUNCTION OF THE CONJUNCTIVA
21. SEMIOLOGY OF PATHOLOGICAL CHANGES OF THE CONJUNCTIVA
22. BACTERIAL CONJUNCTIVITIS
23. GONOCOCCAL CONJUNCTIVITIS
24. CHLAMYDIAL CONJUNCTIVITIS
25. TRACHOMA
26. VIRAL CONJUNCTIVITIS
27. ALLERGIC CONJUNCTIVITIS
28. VERNAL CONJUNCTIVITIS
29. ATOPIC CONJUNCTIVITIS
30. GIGANTOPAPILLAR CONJUNCTIVITIS
31. DEGENERATIVE CHANGES OF THE CONJUNCTIVA

SECOND GROUP OF QUESTIONS

32. ANATOMY AND PHYSIOLOGY OF THE CORNEA
33. SEMIOLOGY PATHOLOGICAL CHANGES OF THE CORNEA
34. CONGENITAL ANOMALIES OF THE CORNEA
35. BACTERIAL KERATITIS
36. MYCOTIC KERATITIS
37. PARASITIC - ACANTHAMOEBA KERATITIS
38. SUPERFICIAL HERPETIC KERATITIS
39. STROMAL HERPETIC KERATITIS
40. HERPES ZOSTER KERATITIS
41. NEUROTROPHIC KERATITIS

42. KERATITIS IN THE FIELD OF LAGOPHTHALMOS
43. KERATOPATHIES CAUSED BY DRUGS
44. CORNEAL MANIFESTATIONS DURING SYSTEMIC DISEASES
45. DYSTROPHY AND DEGENERATION OF THE CORNEA
46. SCLERA - ANATOMY, HISTOLOGY AND FUNCTION
47. EPISCLERITIS AND SCLERITIS
48. UVEA-ANATOMY AND PHYSIOLOGY
49. DEFINITION AND ETIOLOGY CLASSIFICATION OF UVEITIS
50. ANTERIOR UVEITIS: CLINICAL SYMPTOMS, DIVISION AND COMPLICATIONS
51. INTERMEDIATE CONDITIONS
52. POSTERIOR UVEITIS - PICTURE AND COMPLICATIONS ON THE POSTERIOR SEGMENT OF THE EYE
53. DIFFERENTIAL DIAGNOSIS OF UVEITIS AND DIAGNOSTIC PROCEDURES IN UVEITIS
54. TREATMENT OF UVEITIS OF INFECTIOUS AND NON-INFECTIOUS ETIOLOGY
55. AUTOIMMUNE DISEASES SPECIFIC TO THE EYE
56. AUTOIMMUNE DISEASES NOT SPECIFIC TO THE EYE
57. SERONEGATIVE ARTHROPATHIES - CLINICAL MANIFESTATIONS IN THE EYE
58. VOGT-KAJANAGI-HARADA DISEASE - CLINICAL MANIFESTATIONS IN THE EYE
59. MULTIPLE SCLEROSIS - CLINICAL MANIFESTATIONS IN THE EYE
60. BEHÇET'S DISEASE, SYSTEMIC LUPUS, ANTIPHOSPHOLIPID SYNDROME AND SARCOIDOSIS - CLINICAL MANIFESTATIONS IN THE EYE
61. VIRAL AND BACTERIAL UVEITIS
62. PARASITIC AND FUNGAL UVEITIS
63. CONDITIONAL ENTITIES
64. ETIOLOGY AND THERAPY OF ACUTE AND CHRONIC ENDOPHTHALMITIS
65. AQUEOUS HUMOR- ROLE, CHEMICAL COMPOSITION, EXAMINATION METHODS

THIRD GROUP OF QUESTIONS

66. ANATOMY, PHYSIOLOGY AND METABOLISM OF THE LENS
67. MECHANISM OF CORTICAL AND NUCLEAR SENILE CATARACT
68. EVOLUTIONARY STAGES OF CATARACT
69. ETIOLOGICAL FORMS OF CATARACT
70. CONGENITAL CATARACT
71. ANOMALIES OF LENS SHAPE AND POSITION
72. COMPLICATIONS OF SWELLED (INTUMESCENT) AND PREMATURE (HYPERMATURE) CATARACT
73. SURGICAL METHODS OF CATARACT OPERATION
74. COMPLICATIONS DURING AND AFTER CATARACT SURGERY
75. ANATOMY AND PHYSIOLOGY OF THE VITREOUS BODY
76. PATHOLOGICAL CONDITIONS OF THE VITREOUS BODY
77. ANATOMICAL, HISTOLOGICAL STRUCTURE OF THE RETINA, EXAMINATION TECHNIQUES
78. DIABETIC RETINOPATHY
79. RETINOPATHY OF PREMATURE
80. RETINA ABLATION
81. ANATOMICAL CHARACTERISTICS, EXAMINATION TECHNIQUES AND SYMPTOMATOLOGY OF MACULAR DISEASE
82. SENILE MACULAR DEGENERATION

83. CHANGES IN RETINA BLOOD VESSELS IN ARTERIOSCLEROSIS AND ARTERIAL HYPERTENSION
84. OCCLUSION OF THE CENTRAL RETINAL ARTERY
85. CENTRAL RETINAL VEIN OCCLUSION
86. HYDRODYNAMICS OF AQUEOUS WATER AND PATHOGENETIC MECHANISMS OF GLAUCOMA DISEASE
87. TYPES OF GLAUCOMA
88. METHODS OF MEASURING EYE PRESSURE
89. PERIMETRY AND GLAUCOMA OUTCOME IN THE VISUAL FIELD
90. ANATOMICAL DETAILS AND EXAMINATION OF THE ANTERIOR CHAMBER ANGLE - GONIOSCOPY
91. PRIMARY OPEN-ANGLE GLAUCOMA
92. PRIMARY CLOSURE-ANGLE GLAUCOMA
93. DRUG THERAPY OF GLAUCOMA
94. LASER APPLICATION IN GLAUCOMA THERAPY AND GLAUCOMA SURGERY
95. ACUTE GLAUCOMA
96. SECONDARY GLAUCOMA
97. CONGENITAL GLAUCOMA
98. ANATOMY OF THE OPTIC NERVE
99. OPTIC NEURITIS
100. STASIS AT THE OPTIC NERVE
101. ATROPHY OF THE OPTIC NERVE
102. ANATOMY OF THE VISUAL PATHWAY
103. OPHTHALMOLOGICAL CHARACTERISTICS OF VISUAL PATHWAY LESIONS
104. NEUROANATOMY OF PUPILLARY PATHWAYS AND PATHOLOGICAL CHANGES OF THE PUPILS

FOURTH GROUP OF QUESTIONS

105. SUBJECTIVE AND OBJECTIVE METHODS OF DETERMINING REFRACTION
106. CORRECTION OF REFRACTION ANOMALIES
107. EMMETROPIA, AMETROPIA AND ANISOMETROPIA
108. HYPERMETROPIA
109. MYOPIA
110. DEGENERATIVE MYOPIA
111. ASTIGMATISM
112. VISUAL ACUITY, MINIMUM SEPARABLE, MINIMUM VISIBLE, MINIMUM COGNOSCIBLE
113. ACCOMMODATION AND ACCOMMODATION DISORDERS
114. CONTACT LENSES
115. BULBOMOTOR ANATOMY AND TESTING OF OCULOMOTOR EQUILIBRIUM
116. MOTOR COMPONENT OF BINOCULAR VISION, SHERRINGTON'S AND HERRING'S LAW OF BULBOMOTOR FUNCTIONING
117. SENSORY COMPONENT OF BINOCULAR VISION; ELEMENTS OF BINOCULAR VISION ACCORDING TO WORTH
118. SENSORY CHANGES IN EXPOSURE
119. GOALS AND PRINCIPLES OF THE TREATMENT OF LASIK
120. CONCOMITATING STRABISM: CHARACTERISTICS AND DIVISION
121. INCOMMITTING (PARALYTIC STRABISM): CLINICAL CHARACTERISTICS, HES-LANKASTER TEST
122. PARALYSIS OF N. OCULOMOTORIUS
123. PARALYSIS OF N.TROCHLEARIS AND N.ABDUCES

124. NYSTAGMUS - DEFINITION AND DIVISION
125. ANATOMY OF THE ORBIT AND DIAGNOSIS OF ORBITAL DISEASES
126. DISORDERS OF THE POSITION OF THE EYEBALL IN THE ORBIT: ENOPHTHALMOS AND EXOPHTHALMOS
127. INFLAMMATORY DISEASES OF THE ORBIT
128. PANOPHTHALMITIS
129. TUMORS OF THE EYELIDS
130. TUMORS OF THE JOINT
131. RETINOBLASTOMA
132. MALIGNANT MELANOMA UVE
133. TUMORS OF THE ORBIT
134. BLOW OUT ORBIT FRACTURES AND OTHER ORBIT INJURIES
135. MECHANICAL INJURIES TO THE CORONA AND CORNEA
136. CONTUSION INJURIES OF THE EYEBALL
137. PENETRANT AND PERFORATIVE INJURIES OF THE EYEBALL
138. CHEMICAL EYE INJURIES
139. EYE BURNS
140. EYE INJURIES BY ULTRAVIOLET AND LIGHT RAYS
141. EYE INJURIES BY INFRARED AND IONIZING RADIATION
142. HEREDITARY EYE DISEASES