

Faculty of Medicine, University of Rijeka

Course: Ophthalmology

Course Coordinator: Assistant Professor Tea Čaljkusić-Mance, MD, PhD

Department: Department of Ophthalmology

Study program: Integrated Undergraduate and Graduate University Study of Medicine in English

Study year: Fifth

Academic year: 2021./2022.

COURSE SYLLABUS

Course description (a brief description of the course, general instructions, teaching overview, necessary equipment and preparation, student obligations, etc)

The course “ **Ophthalmology**” is mandatory course in the fifth year of the Integrated Undergraduate and Graduate University Study of Medicine in English and consists of **36 hours of lectures** and **24 hours of practical classes (3.5 ECTS)**. Most of the course are held at the Eye Clinic of the Clinical Hospital Center Rijeka except for lectures that are held online.

Course objective:

Acquisition of basic knowledge and clinical skills in the field of ophthalmology including a basic understanding of eye diseases and eye manifestations of systemic diseases. It provide appropriate levels of primary eye care, and medical students should learn the indications and need for referral to ophthalmologists for management of specialty cases. There has been a spectrum of teaching methods of ophthalmology for medical students consisting of: 1) traditional didactic lectures and clinical demonstrations. 2) Illustrative case studies to highlight particular eye diseases. 3) Evidence-based medical teaching, pairing ophthalmic teaching with neuro-science, neurology, endocrinology, pediatrics, and other relevant subjects.

Ophthalmology is mostly a surgical specialty, so medical students should be given an opportunity to observe procedures in the operating room. By allowing students to be exposed to the surgical procedures, they will acquire a more realistic understanding of ophthalmic practice.

Course content:

History of ophthalmology, Anatomy and fiziology of eye and adnexa. Eye disease symptoms. Measurement of visual aquity, glasses and contact lenses prescription. Conjunctival diseases. Corneal diseases. Lens and cataract. Lacrimal drainage system disorders. Eyelids disorders. Orbital diseases. Strabismus and amblyopia. Glaucoma. Optic nerve and neuroophthalmology. Retina, retinal diseases and vitreoretinal surgery. Eye trauma. Tumors of eye and adnexa. Uveitis. Drugs in ophthalmology. Eye and systemic diseases.

Telemedicine and artificial intelligence in ophthalmology. Lasers in ophthalmology. Intraocular lenses. Refractive surgery. Corneal transplantation. Eye banking.

Class performance:

The estimated duration of classes is five weeks. Classes are performed through lectures and practicals. Active participations is expected and monitored during the classes. Teachers discuss with students the specific pathological conditions of individual patients at the clinic. There will be mandatory written test held at the end of practical and oral final exam. The student will gain 3.5 ECTS by fulfilling all the above obligations.

Required reading:

1. Harold A. Stein, Raymond M. Stein, Melvin I. Freeman. The Ophthalmic Assistant. eBook available at *Clinical Key* base enabled by the Faculty of Medicine's Library. 10th Edition, 2018.
2. John F. Salmon. Kanski's Clinical Ophthalmology. 9th Edition, 2020. eBook available at *Clinical Key* base enabled by the Faculty of Medicine's Library.

Recommended for additional reading:

1. Myron Yanoff, Jay S. Duker. Ophthalmology. 5th Edition, 2019. eBook available at *Clinical Key* base enabled by the Faculty of Medicine's Library.
2. Myron Yanoff, Joseph Sassani. Ocular pathology. 8th Edition, 2018. eBook available at *Clinical Key* base enabled by the Faculty of Medicine's Library.

Course teaching plan:

List of lectures (with titles and learning outcomes)

L1. Introduction and history of ophthalmology

Learning outcomes:

Get acquainted with the goal of the course of ophthalmology. Get acquainted and adopt knowledge about the historical facts of the development of ophthalmology.

L2. Eye anatomy

Learning outcomes:

Remember the basics of anatomy of the eye, which is a prerequisite for further understanding of eye diseases.

L3. Eye physiology

Learning outcomes:

Repetition of the basics of eye, orbit and eye adnex physiology in order to better understand pathophysiological processes.

L4. Basic symptoms of eye diseases

Learning outcomes:

Get acquainted with the basic symptomatology of eye diseases and recognize certain conditions that can seriously impair vision function.

L5. Eye refraction, eyeglasses and contact lenses.

Learning outcomes:

Getting to know and understand the physical principles of refractive eye errors, basic symptomatology and ways of correcting them. The student should understand that the human eye is an optical system and principles of common refractive errors, such as myopia, hyperopia, astigmatism, and presbyopia. Master the principles of eyeglass correction of refractive anomalies and the use of contact lenses in the correction of various eye anomalies. The student is expected to know how to measure visual acuity with a near card and near correction.

L6. Conjunctival diseases

Learning outcomes:

Students should understand anterior segment anatomy of the human eye and know the signs and symptoms of common causes of red eye. It is expected to acquire knowledge about certain inflammatory and degenerative conjunctival conditions and various tumor processes.

L7. Corneal diseases

Learning outcomes:

Adopt knowledge about corneal anomalies (keratoconus, keratoglobus), dystrophy and corneal degeneration, and bacterial, viral and parasitic inflammations. Distinguish the types of surgical procedures on the cornea, and the principle of therapeutic action of amnion membrane transplantation.

L8. Lens and cataract

Learning outcomes:

Students should recognize the symptoms and ophthalmic signs of cataract as a cause of decreased central visual acuity. They should understand the general principles of cataract surgery and correction of aphakia with intraocular lenses and contact lenses.

L9. Lacrimal drainage system disorders

Learning outcomes:

Explain ways of causing lacrimal drainage system disorders and identify different types of inflammatory conditions of individual parts of the lacrimal drainage system.

L10. Orbital and adnexal diseases

Learning outcomes:

Students should understand the normal anatomy of the adnexal structures and orbit, main types of disorders and the presenting signs and symptoms of serious conditions associated with ocular and systemic morbidity, such as orbital cellulitis.

L11. Strabismus and amblyopia

Learning outcomes:

Students should understand the normal anatomy of the extra ocular muscles and normal ocular alignment. Students should understand the principles of abnormal ocular alignment, such as exotropia, and esotropia, and the risk of amblyopia in children.

L12. i L13. Glaucoma

Learning outcomes:

Students should understand the anterior segment anatomy and understand the circulation of aqueous humor in the normal human eye and in primary open angle glaucoma and primary angle closure glaucoma. Students should recognize the risk factors, signs, and symptoms of primary open angle glaucoma and angle closure glaucoma.

L14. Optic nerve and neuro-ophthalmology

Learning outcomes:

Students should understand the relationship of the eye and visual system within the context of the central nervous system. Students should also know how to test pupillary reactions and how to assess peripheral visual fields, and should understand conditions which require immediate ophthalmic evaluation, such as sudden vision loss, papilledema, and anterior ischemic optic neuropathy with giant cell arteritis in the elderly patient, III nerve palsy with pupillary involvement, IV and VI nerve palsies.

L15. Eye and adnexa tumors

Learning outcomes:

Students should understand that malignancy may affect the eye and adnexa and recognize the signs and symptoms of childhood retinoblastoma.

L16. i L17. Diabetic retinopathy

Learning outcomes:

Students should understand the normal appearance and function of the retina. They should recognize abnormal anatomy and the signs and symptoms of conditions that are associated with important causes of visual loss, such as diabetic retinopathy. Hallmarks of diabetic retinopathy has to be recognized -hard exudates, hemorrhages and microaneurysms in Nonproliferative Diabetic Retinopathy, soft exudates and intraretinal microvascular abnormalities in Preproliferative retinopathy and neovascularization of the optic disc (NVD), neovascularization elsewhere and vitreous hemorrhage in Proliferative retinopathy.

L18. Retinal detachment

Learning outcome:

Students should understand the normal appearance and function of the retina. They should recognize abnormal anatomy and the signs and symptoms of conditions that are associated with important causes of visual loss, such as retinal detachment. Know how to clearly define certain types of retinal detachment and ways of treating them. Special review of new laser and microsurgical methods of emergency care of patients with retinal detachment. Get acquainted with laser methods of disposal of early retinal ruptures and pneumoretinopexy procedure.

L19. Retinopathy of prematurity

Learning outcome:

Student should understand that retinopathy of prematurity is an eye disease that can happen in premature babies and without treatment could lead to blindness. Babies born earlier than 31 weeks of gestation, or who weigh less than 1500 grams at birth, are most at risk. Severe cases need laser photocoagulation of the retina, intravitreal anti-VEGF therapy or surgery.

L20. Age-related macular degeneration

Learning outcome:

Students should understand the normal appearance and function of the macula. They should recognize abnormal anatomy and the signs and symptoms of conditions that are associated with important causes of visual loss, such as macular degeneration. They should distinguish between different types and stages of macular degeneration (dry and wet form) as well as treatments and ways of diagnosis and therapy.

L21. Retinal vascular diseases

Learning outcome:

Students should understand the normal appearance and function of the retinal blood vessels. They should recognize abnormal anatomy and the signs and symptoms of conditions that are associated with important causes of visual loss, such as central retinal artery and central retinal vein occlusion. It is also necessary to know the ways of diagnosis and therapy of these conditions.

L22. Anterior eye segment trauma and surgery

Learning outcomes:

Get acquainted with the mechanisms of trauma of the anterior eye segment and possible ways of surgical treatments.

L23. Posterior eye segment trauma and surgery

Learning outcome:

Get acquainted with the mechanisms of trauma of the posterior eye segment and possible ways of surgical treatments.

L24. | L25. Vitreoretinal surgery I and II

Learning outcome:

Students should know modern surgical techniques for the management of serious retina and vitreous conditions that can lead to serious vision loss or blindness. They should distinguish between milder conditions that can be solved by laser or pneumatic retinopexy until the most complex procedure of the pars plana vitrectomy.

L26. Uveitis

Learning outcome:

Acquisition of knowledge about different types of uveitis with regard to cause and anatomical placement, diagnostic tests that need to be done and modern possibilities of therapy.

L27. Drugs in ophthalmology

Learning outcome:

Acquisition of knowledge about the types of drugs used in ophthalmology and the pathways of their application.

L28. Ocular manifestation of the systemic disease

Learning outcome:

Students should understand the signs and symptoms of ocular conditions that are associated with important systemic diseases and diagnoses, such as congenital, traumatic, vascular, neoplastic, autoimmune, idiopathic, infectious, metabolic or endocrine, and pharmacologic or toxic conditions.

L29. Telemedicine and artificial intelligence (AI) in ophthalmology

Learning outcome:

Get acquainted with the possibilities of telemedicine in ophthalmology in the conditions of Covid 19 and post-Covid 19 period as well as technical and legal assumptions for them. Understand AI capabilities in diagnosis, therapy and predicting treatment outcomes.

L30. Lasers in ophthalmology

Learning outcome:

Gain knowledge of the different types of lasers used in ophthalmology and get acquainted with the mechanisms of their action and the outcomes of treatment.

L31. Intraocular lenses

Learning outcome:

Get acquainted with different types of implantation lenses in ophthalmology and basic principles of their action. Understand the concept of correcting the refractive error caused lens removal.

L32. i L33. Refractive surgery I and II

Learning outcome:

Students should understand the eye as an optical system and should know how refractive surgery corrects common refractive errors of emmetropia, myopia, hyperopia, and astigmatism. Students should understand refractive errors and their relations to eye length, corneal curvature, and lens status, describe refractive surgical theory and practice and understand risks and benefits of commonly discussed and performed refractive procedures. They should be able to explain the principle of performing operations as PRK and LASIK. It needs to be understood that success in refractive surgery depends on careful preoperative evaluation, exclusion of systemic diseases and eye disorders that may be contraindicated and assessment of risks and benefits of each procedure.

L34. Corneal transplantation (Keratoplasty)

Learning outcome:

Get acquainted and acquire knowledge about various procedures of corneal transplantation (perforative, lamellar, DSEK, DMEK, etc.) and about the possible complications.

L35. Eye banking

Learning outcome:

Get acquainted with the principles and procedures within the eye bank and the different time storage of eye tissues for the purpose of transplant surgery.

L36. Final lecture

The list of practicals with description

P1. ,P2. Introduction and opthalmic history taking

Introduction, visit to the Eye Clinic and explain specifics of taking medical history in opthalmic patients. Know the necessary anamnestic data that should allways be examined in a opthalmic patient.

P3. Visual aquity testing

Students should understand the concept of distance visual acuity testing with and without correction and with a pinhole. Students should understand the purpose of measuring near visual acuity with and without correction and testing each eye individually. They should recognize different types of visual charts.

P4. Understanding of ocular anatomy (model)

Students should be able to define each of these structures and describe their function: eyelids,sclera, limbus, iris, pupil, conjunctiva, cornea , extraocular muscles, anterior chamber, lens, ciliary body, posterior chamber, vitreous cavity, retina, macula, choroids, optic nerve.

P5. External Inspection, slit lamp examination

Students should understand the external ocular anatomy and evaluate the position of the lids and inspect the conjunctiva, sclera, cornea and iris with a penlight. Using slit lamp for anterior segment examination, perform basic biomicroscopy.

P6. Pupillary Reaction Testing, Ocular Motility Testing, Confrontation Field Testing

Students should assess the direct and consensual pupillary reaction. Students should understand the importance of assessing ocular motility in the six cardinal positions of gaze and ocular alignment in primary position. Students should understand the principle and the technique of determining the peripheral visual field by finger counting confrontation technique

P7. Direct and indirect Ophthalmoscopy

Students should understand the use of a direct ophthalmoscope and know the importance of testing the patient's right eye with the ophthalmoscope held in the examiner's right hand, and left eye with the direct ophthalmoscope held in the examiner's left hand. Students should understand the basic function of an ophthalmoscope and should know how to adjust the focus. They should understand principles of indirect opthalmoscopy without performing.

P8. Pupillary Dilatation

Students should understand how to pharmacologically dilate pupils for examination of the ocular fundus. Students should understand the difference between retinal arterioles and retinal venules, the normal

appearance of the optic nerve head, retinal pigment epithelium, and foveal reflex. Student should also recognize the normal uniform red-orange background retinal color due to retinal pigment epithelium.

P9. Upper Lid Eversion, Fluorescein Staining of the Cornea

Students should know how to revert the upper lid and examine for the presence of foreign bodies. Students should know how to apply topical fluorescein and interpret staining of the cornea for detection of a corneal epithelial defect.

P10. Red eye examination

Students should know how to make differential diagnosis of red eye, and treat allergic and bacterial conjunctivitis

P11. Intraocular Pressure Measurement

Students should understand the concept of assessing intraocular pressure, but are not expected to measure intraocular pressure with a tonometer

P12. Perimetry

Getting acquainted with performing different types of vision field and diagnostics of disorders. Review of images.

P13., P14. Imaging examinations in the ophthalmology (fluorescein angiography of retinal vessels, optical coherence tomography (OCT), ultrasonography, X-ray, CT)

Introduction to the technique of performing fluorescein angiography, independent recording of optical coherent tomography, review of ultrasound, CT and X-rays images.

P15., P16. Lasers in ophthalmology, ophthalmic surgery videos, intravitreal injections

Getting acquainted with lasers used in ophthalmology, getting acquainted with the operating block and operating techniques, reviewing operations-ophthalmic surgery videos, getting acquainted with the intravitreal injections technique

P17.-P24.

Clinical cases

Patient review and application of acquired knowledge.

Students obligations:

Attendance on lectures and practicals is mandatory.

Communication between the teaching staff and students will take place on Merlin e-learning system or by e-mail addresses (@uniri.hr)

Assesment (exams, description of written/oral/practical exam; the scoring criteria)

Student assessment is carried out in accordance with the current University of Rijeka Study Regulations and the Student Regulations at the Faculty of Medicine Rijeka (adopted by the Faculty Council of the Faculty of Medicine Rijeka).

Students' performance will be evaluated during the course and at the final exam. Out of a total of 100 credits, a student can earn 50 credits (50%) during the course with written test, and 50 credits (50%) at the final oral exam.

Student assessment is performed using ECTS (A-F) and number system (1-5). Student assessments in ECTS system is carried out by is performed by absolute distribution, and according to graduate assessment criteria.

Out of the maximum 70 credits that can be achieved during class, the student must collect a minimum of 40 credits to take the final exam. Students who collect less than 40 credits will have the opportunity for one remedial written test and, if they pass, they will be able to take the final exam.

Students who collect between 40 and 49.9 credits (FX rating category) will have the opportunity for one remedial exam in the autumn exam period. If they pass, they receive an E grade regardless of the number of grade points achieved. Students who collect 39.9 and fewer grade points (F grade category) must re-enroll in the course

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The student acquires grade points by completing the tasks as follows:

During class, the following activities will be monitored:

Regularly class attendance:

A student can miss 30% of classes solely **for health reasons**, which justifies the doctor's apology. Attendance at written tests is mandatory.

There is no possibility to compensate for the absence of classes or exercises. If a student is justified or unjustifiably absent from more than 30% of classes, he cannot continue following the course "Ophthalmology" and loses the opportunity to take the final exam.

In this case student collected 0 ECTS credits and was rated F.

Written tests

During the course, mandatory inter-examinations are taken in the form of a written test (Test I and II), which checks the knowledge acquired during lectures and exercises. Each test has 50 questions with one or two correct answers offered and carries 25 grade points each. The criterion for obtaining grade points that turn into positive grades is 50% of the correctly resolved issues (>25). The inter-examination laid is not transferable, that is, it is valid only for the current academic year.

Success in the written tests turns into credits as follows:

Correct answers	Credits	
0-25	0	
26-32	20	Minimal positive grade
33-38	25	
39-45	30	
46-50	35	

Final exam (30 credits in total):

The final exam consists of a mandatory oral exam. Both parts of the written tests must be positively assessed.

The oral exam carries 30 credits (range from 0-30).

Success in the final oral exam turns into rating points as follows:

Grade	Credits
unsufficient	0
sufficient	8
good	16
very good	24
excelent	30

For passage in the final exam and final assessment (including the listing of previously achieved grade points during class), the student in the final exam must be positively evaluated .

The ECTS grading system is defined by the following criteria:

A (5) – 90 -100% credits

B (4)– 75 - 89,9% credits

C (3) – 60 - 74,9% credits

D (2) -- 50 - 59,9% credits

F (1) – 0 - 49,9% credits

Grades in ECTS grading system are converted in numerical system by the following criteria:

A = excellent (5)

B = very good (4)

C = good (3)

D = sufficient (2)

F = insufficient (1)

Other remarks (related to the course) which are important for students:

Course content and all information related to the course as well as exam dates can be found on the Merlin e-learning system and on the web pages of the Department of Ophthalmology

All student inquiries, regarding the course and possible problems, remarks and inquiries are provided exclusively using the official e-mail addresses (@medri.uniri.hr) or via the Merlin e-learning system. It is possible to arrange consultations with the teaching staff during working hours.

Practicals will be held at the Eye Clinic of the Clinical Hospital Center Rijeka except on the days of 07, 08 and 09.02. when they will be held at the EyeClinic Svjetlost, Heinzelova 39, Zagreb.

Online lectures will be held via MS Teams. Team name is OPHTALMOLOGY 2021./2022.

Link:https://teams.microsoft.com/j/team/19%3ayufpYhA_Sc0plnzfjW7g3SkZfSY5xZSDSG8G-BsQ4x81%40thread.tacv2/conversations?groupId=1143c472-ac93-4bba-809e-5791ecd0840a&tenantId=94aa9436-2653-434c-bd47-1124432cb7d7

COURSE SCHEDULE (FOR ACADEMIC YEAR 2021./2022.)

L= lectures

P = practical

G= group

Date	Lectures (time and place)	Practicals (time and place)	Instructors
18.01.2022. Tuesday	11.00-16.00 h L1,L2,L3,L4,L5 online		L1-L5-Asocc Prof.Tea Čaljkušić-Mance, MD, PhD
20.01.2022. Thursday	11.00-16.00 h L6,L7,L23,L24,L25 online		L6-Assist prof. Maja Boháč, MD, PhD L7-Prof Iva Dekaris, MD, PhD L23,L24,L25-Asocc Prof Ratimir Lazić, MD, PhD
24.01.2022. Monday	08.00-13.00 h L16,L17,L18,L19,L20 online	13.00-15.00 h P1,P2 G3, G4 Eye Clinic Clinical Hospital Center Rijeka	L16,L17,L18,L19-Prof Damir Kovačević, MD PhD L20- Asocc Prof.Tea Čaljkušić-Mance, MD, PhD P1,P2 G3-Maja Novak, MD G4-Tamara Mišljenović-Vučerić, MD
25.01.2022. Tuesday		13.00-15.00 h P1,P2 G1, G2 Eye Clinic	P1,P2 G3-Maja Novak, MD G4-Tamara Mišljenović-Vučerić, MD

		Clinical Hospital Center Rijeka	
26.01.2022. Wednesday	08.00 -13.00 h L11,L12,L13,L14,L15 online	13.00-15.00 h P1,P2 G5 Eye Clinic Clinical Hospital Center Rijeka	L11-L15-Assist Prof Goran Pelčić, MD,PhD P1,P2 G5-Maja Novak, MD
28.01.2022. Friday	08-00-13.00 h L9,L10,L22,L8,L21 online		L9,L10-Asocc Prof Ivana Mravičić, MD,PhD L22- Prof Iva Dekaris, MD, PhD L8,L21-Assist Prof Nataša Drača, MD PhD
		.	
31.01.2022. Monday	08.00-13.00 L26,L27,L28,L29,L30 online	13.00-15.00 h P3,P4 G3, G4 Eye Clinic Clinical Hospital Center Rijeka	L26-L30 - Asocc Prof Tea Čaljkušić-Mance, MD, PhD P3,P4 G3-Maja Novak, MD G4-Tamara Mišljenović- Vučerić, MD
01.02.2022. Tuesday		13.00-15.00 h P3,P4 G1, G2 Eye Clinic Clinical Hospital Center Rijeka	P3,P4 G1-Maja Novak, MD G2-Tamara Mišljenović- Vučerić, MD

02.02.2022. Wednesday	08.00-13.00 h L31,L32,L33,L34,L35 online		L31,L32- Assist prof. Maja Boháč, MD, PhD L33,L34,L35- Prof Iva Dekaris, MD, PhD
04.02.2022. Friday	08.00-09.00 h L36 online		L36- Asocc Prof Tea Čaljkušić-Mance, MD, PhD
07.02.2022 Monday		08.00-16.00 h P5-P12 G3,G4 Eye Clinic “Svjetlost” Zagreb (HeinzeloVA 39)	P5-P13 G3- Assist prof. Maja Boháč, MD, PhD G4- Assist Prof Nataša Drača, MD PhD
08.02.2022. Tuesday		08.00-16.00 h P5-P12 G1,G2 Eye Clinic “Svjetlost” Zagreb (HeinzeloVA 39)	P5-P13 G3- Assist prof. Maja Boháč, MD, PhD G4- Assist Prof Nataša Drača, MD PhD
09.02.2022. Wednesday		08.00-16.00 h P5-P12 G1,G2 Eye Clinic “Svjetlost” Zagreb (HeinzeloVA 39)	P5-P13 G5- Assist Prof Nataša Drača, MD PhD

10.02.2022. Thursday		08.00-14.00 h P13-P18 G3, G4 Eye Clinic Clinical Hospital Center Rijeka	P13-P18 G3-Maja Novak, MD G4-Tamara Mišljenović- Vučerić, MD
11.02.2022. Friday		08.00-14.00 h P13-P18 G3, G4 Eye Clinic Clinical Hospital Center Rijeka	P13-P18 G1-Maja Novak, MD G2-Tamara Mišljenović- Vučerić, MD
14.02.2022. Monday		08.00-16.00 h P3,P4,P13-P18 G5 Eye Clinic Clinical Hospital Center Rijeka	P3,P4,P13-P18 G5- Assist Prof Goran Pelčić, MD,PhD
15.02.2022. Tuesday		08.00-14.00 h P19-P24 G3,G4 Eye Clinic Clinical Hospital Center Rijeka	P19-P24 G3- Prof Damir Kovačević, MD PhD G4-Tamara Mišljenović- Vučerić, MD

16.02.2022. Wednesday		08.00-14.00 h P19-P24 G1,G2 Eye Clinic Clinical Hospital Center Rijeka	P19-P24 G1- Assist Prof Goran Pelčić, MD,PhD G2- Maja Novak, MD
17.02.2022. Thursday		08.00-14.00 h P19-P24 G5 Eye Clinic Clinical Hospital Center Rijeka	P19-P24 G5- Asocc Prof.Tea Čaljkušić-Mance, MD, PhD

The list of lectures and topics

	Lectures and topics	Hours	Place
L1	Introduction and history of ophtalmology	1	online
L2	Eye anatomy	1	online
L3	Eye phisiology	1	online
L4	Basic symptoms of eye diseases	1	online
L5	Eye refraction, eyeglasses and contact lenses.	1	online
L6	Conjunctival diseases	1	online
L7	Corneal diseases	1	online
L8	Lens and cataract	1	online
L9	Lacrimal drainage system disorders	1	online
P10	Orbital and adnexal diseases	1	online

P11	Strabismus and amblyopia	1	online
P12	Glaucoma I	1	online
P13	Glaucoma II	1	online
P14	Optic nerve and neuro-ophtalmology	1	online
P15	Eye and adnexa tumors	1	online
P16	Diabetic retinopathy I	1	online
P17	Diabetic retinopathy II	1	online
P18	Retinal detachment	1	online
P19	Retinopathy of prematurity	1	online
P20	Age-related macular degeneration	1	online
P21	Retinal vascular diseases	1	online
P22	Anterior eye segment trauma and surgery	1	online
P23	Posterior eye segment trauma and surgery	1	online
P24	Vitreoretinal surgery I	1	online
P25	Vitreoretinal surgery II	1	online
P26	Uveitis	1	online
P27	Drugs in ophtalmology	1	online
P28	Ocular manifestation of the the systemic disease	1	online
P29	Telemedicine and artificial intelligence in ophtalmology	1	online
P30	Lasers in ophtalmology	1	online
P31	Intraocular lenses	1	online
P32	Refractive eye surgery I	1	online
P33	Refractive eye surgery II	1	online
P34	Corneal transplantation (Keratoplasty)	1	online
P35	Eye banking	1	online
P36	Final lecture	1	online
	Total hours of lectures	36	

	Practicals and topics	Hours	Place
P1	Introduction and ophtalmic history taking	2	Eye Clinic Rijeka
P2			
P3	Visual aquity testing	1	Eye Clinic Rijeka
P4	Understending of ocular anatomy (model)	1	Eye Clinic Rijeka
P5	External Inspection, Slit lamp examination	1	Eye Clinic Svjetlost
P6	Pupillary Reaction Testing, Ocular Motility Testing, Confrontation Field Testing	1	Eye Clinic Svjetlost
P7	Direct and Indirect Ophtalmoscopy	1	Eye Clinic Svjetlost
P8	Pupillary Dilatation	1	Eye Clinic Svjetlost
P9	Upper Lid Eversion, Fluorescein Staining of the Cornea	1	Eye Clinic Svjetlost
.P10	Red eye examination	1	Eye Clinic Svjetlost
P11	Intraocular Pressure Measerment	1	Eye Clinic Svjetlost
P12	Perimetry	1	Eye Clinic Svjetlost
P13	Imaging examinations in the ophthalmology (fluorescein angiography of retinal vessels, optical coherence tomography (OCT), ultrasonography, X-ray, CT)	2	Eye Clinic Rijeka
P14			
P15	Lasers in ophtalmology, ophtalmic surgery videos, intravitreal injections	2	Eye Clinic Rijeka
P16			
P17- P24	Clinical Cases	8	Eye Clinic Rijeka
	Total hours of practicals	24	

	Final exam dates
1.	05.07.2022.
2.	12.07.2022.
3.	07.09.2022.
4.	21.09.2022.

Asocc Prof Tea Čaljkusić-Mance, MD PhD

Head of the Ophtalmology Department

