

UNIVERSITY OF ZAGREB SCHOOL OF MEDICINE

Plan of the course

Ophthalmology

Academic year **2016/2017**

izv. prof. dr. sc. Smiljka Popović-Suić

I. COURSE AIMS

- To give the students the necessary knowledge to the rational use of investigations and therapy in ophthalmology, i.e. to select and prescribe appropriate medications in such a way as to maximize the desirable and minimize the undesirable effects
- The course should prepare students to incorporate new information and the use of new approach into their practice in the on-coming clinical courses, as well as afterwards in their independent work

In line with these aims, necessary knowledge to deal with the course should be:

anatomy, pathophysiology, pathology and clinical courses of ophthalmological disease and typical clinical pictures, select appropriate diagnostic and treatment

II. COURSE STRUCTURE

Course hours:

Lectures: 16

Seminar: 14

Special clinical practicals: 30

Total hours: 60

- Lectures (L) 16 h
- Interactive seminars (S) 14 h
- Practical (P) 30 h

Total: 60 h

	Week 1	Week 2	Week 3	TOTAL
lectures	6	5	4	15
seminars	5	5	5	15
practicals	8	11	11	30
TOTAL	19	21	20	60

III. PLAN OF THE COURSE AND COURSE SCHEDULE

BLOCKS OF THE COURSE

Number of blocks: 1

Block number	Start	End
1.	13.3.2017	31.3.2017

BLOCKS OF THE COURSE SHEME

Block 1

Date	Time	Group	Course hours type	Theme	Teaching staff
Monday 13.3.2017.	08:15-09:00; KBC, Edukacijski istok - 1	Svi	Lectures	Introduction to Ophthalmology Course / Symptoms of ocular disease	izv. prof. dr. sc. Smiljka Popović-Suić
	09:00-09:45; KBC, Edukacijski istok - 1	Svi	Lectures	Optics and refractive errors	doc. dr. sc. Tomislav Kuzman
	09:45-10:30; KBC, Edukacijski istok - 1	Svi	Lectures	Introduction to Ophthalmology Course	izv. prof. dr. sc. Smiljka Popović-Suić
Tuesday 14.3.2017.	08:15-09:00; KBC, Edukacijski istok - 1	A	Seminar	Optics and refractive errors	izv. prof. dr. sc. Smiljka Popović-Suić
	08:15-09:00; KBC, Edukacijski istok - 2	B	Seminar	Optics and refractive errors	doc. dr. sc. Tomislav Kuzman
	09:00-09:45; KBC, Edukacijski istok - 1	Svi	Lectures	Conjunctiva	doc. dr. sc. Miro Kalauz
Wednesday 15.3.2017.	08:15-09:00; KBC, Edukacijski istok - 1	A	Seminar	Conjunctiva	izv. prof. dr. sc. Smiljka Popović-Suić
	08:15-09:00; KBC, Edukacijski istok - 2	B	Seminar	Conjunctiva	doc. dr. sc. Tomislav Kuzman
	09:00-09:45; KBC, Edukacijski istok - 1	Svi	Lectures	Orbital cavity and lacrimal system	dr. sc. Jelena Juri Mandić
Thursday 16.3.2017.	08:15-09:00; KBC, Edukacijski istok - 1	A	Seminar	Orbital cavity and lacrimal system	izv. prof. dr. sc. Smiljka Popović-Suić
	08:15-09:00; KBC, Edukacijski istok - 2	B	Seminar	Orbital cavity and lacrimal system	doc. dr. sc. Tomislav Kuzman
	09:00-09:45; KBC, Edukacijski istok - 1	Svi	Lectures	The eyelids	Sanja Masnec, dr. med.
	09:45-11:15; KBC, Klinika za očne bolesti		Special clinical practicals	Ophthalmic examination: Orbital Cavity and Nasolacrimal Duct	Sanja Masnec, dr. med., doc. dr. sc. Igor Petriček, doc. dr. sc. Tomislav Vidović, doc. dr. sc. Tomislav Jukić, doc. dr. sc. Miro Kalauz, Ivan Škegro, dr. med., izv. prof. dr. sc. Smiljka Popović-Suić, doc. dr. sc. Tomislav Kuzman, doc. dr. sc. Rajko Kordić, dr. sc. Jelena Juri Mandić
Friday 17.3.2017.	08:15-09:00; KBC, Edukacijski istok - 1	A	Seminar	The eyelids	izv. prof. dr. sc. Smiljka Popović-Suić
	08:15-09:00; KBC, Edukacijski istok - 2	B	Seminar	The eyelids	doc. dr. sc. Tomislav Kuzman

Date	Time	Group	Course hours type	Theme	Teaching staff
	09:00-09:45; KBC, Edukacijski istok - 1	Svi	Lectures	Neuroophthalmology	doc. dr. sc. Tomislav Vidović
	09:45-11:15; KBC, Klinika za očne bolesti		Special clinical practicals	Ophthalmic examination: The Eyelids. Inspection. Eversion	Sanja Masnec, dr. med., doc. dr. sc. Igor Petriček, doc. dr. sc. Tomislav Vidović, doc. dr. sc. Tomislav Jukić, doc. dr. sc. Miro Kalauz, Ivan Škegro, dr. med., izv. prof. dr. sc. Smiljka Popović-Suić, doc. dr. sc. Tomislav Kuzman, doc. dr. sc. Rajko Kordić, dr. sc. Jelena Juri Mandić
Monday 20.3.2017.	08:15-09:00; KBC, Edukacijski istok - 2	B	Seminar	Neuroophthalmology	doc. dr. sc. Tomislav Kuzman
	08:15-09:00; KBC, Edukacijski istok - 1	A	Seminar	Neuroophthalmology	izv. prof. dr. sc. Smiljka Popović-Suić
	09:00-09:45; KBC, Edukacijski istok - 1	Svi	Lectures	Eye examination	doc. dr. sc. Igor Petriček
	09:45-11:15; KBC, Klinika za očne bolesti		Special clinical practicals	Ophthalmic examination: Direct Ophthalmoscopy. Swinging flashlight test. Direct and indirect light reflex. Near reflex	Sanja Masnec, dr. med., doc. dr. sc. Igor Petriček, doc. dr. sc. Tomislav Vidović, doc. dr. sc. Tomislav Jukić, doc. dr. sc. Miro Kalauz, Ivan Škegro, dr. med., izv. prof. dr. sc. Smiljka Popović-Suić, doc. dr. sc. Tomislav Kuzman, doc. dr. sc. Rajko Kordić, dr. sc. Jelena Juri Mandić
Tuesday 21.3.2017.	08:15-09:00; KBC, Edukacijski istok - 1	A	Seminar	Ophthalmological examination	izv. prof. dr. sc. Smiljka Popović-Suić
	08:15-09:00; KBC, Edukacijski istok - 2	B	Seminar	Ophthalmological examination	doc. dr. sc. Tomislav Kuzman
	09:00-09:45; KBC, Edukacijski istok - 1	Svi	Lectures	Ocular motility and strabismus	Zlatko Juratovac, dr. med.
	09:45-11:15; KBC, Klinika za očne bolesti		Special clinical practicals	Ophthalmic examination: Perimetry. Pseudoisochromatic Plates. Visual Evoked Potentials, ultrasonography, electrophysiology of the eye, OCT	Sanja Masnec, dr. med., doc. dr. sc. Igor Petriček, doc. dr. sc. Tomislav Vidović, doc. dr. sc. Tomislav Jukić, doc. dr. sc. Miro Kalauz, Ivan Škegro, dr. med., izv. prof. dr. sc. Smiljka Popović-Suić, doc. dr. sc. Tomislav Kuzman, doc. dr. sc. Rajko Kordić, dr. sc. Jelena Juri Mandić
Wednesday 22.3.2017.	08:15-09:00; KBC, Edukacijski istok - 2	B	Seminar	Ocular Motility and Strabismus	doc. dr. sc. Tomislav Kuzman
	08:15-09:00; KBC, Edukacijski istok - 1	A	Seminar	Ocular Motility and Strabismus	izv. prof. dr. sc. Smiljka Popović-Suić

Date	Time	Group	Course hours type	Theme	Teaching staff
	09:00-09:45; KBC, Edukacijski istok - 1	Svi	Lectures	Childhood ophthalmology	mr. sc. Sanja Perić
	09:45-12:00; KBC, Klinika za očne bolesti		Special clinical practicals	Ophthalmic examination: Maddox,s cross. Use of prism lens. Determining the Type of Fixation. Eyeglass occlusion. Orthoptic exercises. Eye patching	Sanja Masnec, dr. med., doc. dr. sc. Igor Petriček, doc. dr. sc. Tomislav Vidović, doc. dr. sc. Tomislav Jukić, doc. dr. sc. Miro Kalauz, Ivan Škegro, dr. med., izv. prof. dr. sc. Smiljka Popović-Suić, doc. dr. sc. Tomislav Kuzman, doc. dr. sc. Rajko Kordić, dr. sc. Jelena Juri Mandić
Thursday 23.3.2017.	08:15-09:00; KBC, Edukacijski istok - 1	A	Seminar	Childhood ophthalmology	izv. prof. dr. sc. Smiljka Popović-Suić
	08:15-09:00; KBC, Edukacijski istok - 2	B	Seminar	Childhood ophthalmology	doc. dr. sc. Tomislav Kuzman
	09:00-09:45; KBC, Edukacijski istok - 1	Svi	Lectures	Cornea	doc. dr. sc. Rajko Kordić
	09:45-11:15; KBC, Klinika za očne bolesti		Special clinical practicals	Ophthalmic examination in children	Sanja Masnec, dr. med., doc. dr. sc. Igor Petriček, doc. dr. sc. Tomislav Vidović, doc. dr. sc. Tomislav Jukić, doc. dr. sc. Miro Kalauz, Ivan Škegro, dr. med., izv. prof. dr. sc. Smiljka Popović-Suić, doc. dr. sc. Tomislav Kuzman, doc. dr. sc. Rajko Kordić, dr. sc. Jelena Juri Mandić
Friday 24.3.2017.	08:15-09:00; KBC, Edukacijski istok - 2	B	Seminar	Cornea	doc. dr. sc. Tomislav Kuzman
	08:15-09:00; KBC, Edukacijski istok - 1	A	Seminar	Cornea	izv. prof. dr. sc. Smiljka Popović-Suić
	09:45-11:15; KBC, Klinika za očne bolesti		Special clinical practicals	Ophthalmic examination: Slit Lamp Examination, Oblique illumination of the Anterior Chamber, Optic Disc Ophthalmoscopy, Photocoagulation	Sanja Masnec, dr. med., doc. dr. sc. Igor Petriček, doc. dr. sc. Tomislav Vidović, doc. dr. sc. Tomislav Jukić, doc. dr. sc. Miro Kalauz, Ivan Škegro, dr. med., izv. prof. dr. sc. Smiljka Popović-Suić, doc. dr. sc. Tomislav Kuzman, doc. dr. sc. Rajko Kordić, dr. sc. Jelena Juri Mandić
Monday 27.3.2017.	08:15-09:00; KBC, Edukacijski istok - 1	A	Seminar	Retina	izv. prof. dr. sc. Smiljka Popović-Suić
	08:15-09:00; KBC, Edukacijski istok - 2	B	Seminar	Retina	doc. dr. sc. Tomislav Kuzman
	09:00-09:45; KBC, Edukacijski istok - 1	Svi	Lectures	Glaucoma	izv. prof. dr. sc. Smiljka Popović-Suić

Date	Time	Group	Course hours type	Theme	Teaching staff
	09:45-11:15; KBC, Klinika za očne bolesti		Special clinical practicals	Ophthalmic examination: Measurement of Intraocular Pressure. Examination of the Retinal Nerve Fiber Layer. OCT diagnostic. Gonioscopy Direct and Indirect Ophthalmoscopy. Contact lens examination.	Sanja Masnec, dr. med., doc. dr. sc. Igor Petriček, doc. dr. sc. Tomislav Vidović, doc. dr. sc. Tomislav Jukić, doc. dr. sc. Miro Kalauz, Ivan Škegro, dr. med., izv. prof. dr. sc. Smiljka Popović-Suić, doc. dr. sc. Tomislav Kuzman, doc. dr. sc. Rajko Kordić, dr. sc. Jelena Juri Mandić
Tuesday 28.3.2017.	08:15-09:00; KBC, Edukacijski istok - 2	B	Seminar	Glaucoma	doc. dr. sc. Tomislav Kuzman
	08:15-09:00; KBC, Edukacijski istok - 1	A	Seminar	Glaucoma	izv. prof. dr. sc. Smiljka Popović-Suić
	09:00-09:45; KBC, Edukacijski istok - 1	Svi	Lectures	Lens and vitreous body	doc. dr. sc. Rajko Kordić
	09:45-11:15; KBC, Klinika za očne bolesti		Special clinical practicals	Ophthalmic examination: Lens. Retroillumination of the lens. Focal illumination with a slit lamp. Ultrasonography. Fundus photography	Sanja Masnec, dr. med., doc. dr. sc. Igor Petriček, doc. dr. sc. Tomislav Vidović, doc. dr. sc. Tomislav Jukić, doc. dr. sc. Miro Kalauz, Ivan Škegro, dr. med., izv. prof. dr. sc. Smiljka Popović-Suić, doc. dr. sc. Tomislav Kuzman, doc. dr. sc. Rajko Kordić, dr. sc. Jelena Juri Mandić
Wednesday 29.3.2017.	08:15-09:00; KBC, Edukacijski istok - 1	A	Seminar	Lens and Vitreous Body	izv. prof. dr. sc. Smiljka Popović-Suić
	08:15-09:00; KBC, Edukacijski istok - 2	B	Seminar	Lens and Vitreous Body	doc. dr. sc. Tomislav Kuzman
	09:00-09:45; KBC, Edukacijski istok - 1	Svi	Lectures	Uveal tract	izv. prof. dr. sc. Nenad Vukojević
	09:45-11:15; KBC, Klinika za očne bolesti		Special clinical practicals	Ophthalmic examination: Slit lamp biomicroscopy of the iris. Indirect inspection of the root of the iris by gonioscopy. Inspection of the posterior of the pars plana - a three-mirror lens. Transillumination of the eye. Fluorescein angiography	Sanja Masnec, dr. med., doc. dr. sc. Igor Petriček, doc. dr. sc. Tomislav Vidović, doc. dr. sc. Tomislav Jukić, doc. dr. sc. Miro Kalauz, Ivan Škegro, dr. med., izv. prof. dr. sc. Smiljka Popović-Suić, doc. dr. sc. Tomislav Kuzman, doc. dr. sc. Rajko Kordić, dr. sc. Jelena Juri Mandić
Thursday 30.3.2017.	08:15-09:00; KBC, Edukacijski istok - 2	B	Seminar	Uveal Tract	doc. dr. sc. Tomislav Kuzman
	08:15-09:00; KBC, Edukacijski istok - 1	A	Seminar	Uveal Tract	izv. prof. dr. sc. Smiljka Popović-Suić
	09:00-09:45; KBC, Edukacijski istok - 1	Svi	Lectures	Ocular trauma	doc. dr. sc. Tomislav Jukić

Date	Time	Group	Course hours type	Theme	Teaching staff
	09:45-11:15; KBC, Klinika za očne bolesti		Special clinical practicals	Ophthalmic examination: Ocular Trauma. Patient History, Inspection, Ophthalmoscopy. Corneal and conjunctival foreign bodies – pried out.	Sanja Masnec, dr. med., doc. dr. sc. Igor Petriček, doc. dr. sc. Tomislav Vidović, doc. dr. sc. Tomislav Jukić, doc. dr. sc. Miro Kalauz, Ivan Škegro, dr. med., izv. prof. dr. sc. Smiljka Popović-Suić, doc. dr. sc. Tomislav Kuzman, doc. dr. sc. Rajko Kordić, dr. sc. Jelena Juri Mandić
Friday 31.3.2017.	08:15-09:00; KBC, Edukacijski istok - 1	A	Seminar	Ocular Trauma	izv. prof. dr. sc. Smiljka Popović-Suić
	08:15-09:00; KBC, Edukacijski istok - 2	B	Seminar	Ocular Trauma	doc. dr. sc. Tomislav Kuzman
	09:00-11:15; KBC, Klinika za očne bolesti		Special clinical practicals	Ophthalmic examination: Practical skills check	Sanja Masnec, dr. med., doc. dr. sc. Igor Petriček, doc. dr. sc. Tomislav Vidović, doc. dr. sc. Tomislav Jukić, doc. dr. sc. Miro Kalauz, Ivan Škegro, dr. med., izv. prof. dr. sc. Smiljka Popović-Suić, doc. dr. sc. Tomislav Kuzman, doc. dr. sc. Rajko Kordić, dr. sc. Jelena Juri Mandić

LECTURES

- Introduction to Ophthalmology Course/ Symptoms of ocular disease (1)
- Optics and refractive Errors (1)
- Conjunctiva (1)
- Orbital Cavity and Lacrymal System(1)
- The Eyelids (1)
- Neuroophthalmology (1)
- Eye examination (1)
- Ocular Motility and Strabismus (1)
- Childhood ophthalmology (1)
- Cornea (1)
- Glaucoma (1)
- Lens and Vitreous Body (1)
- Uveal Tract (1)
- Ocular Trauma (1)
- Retina (1)

SEMINARS

- Introduction to Ophthalmology Course (1)
- Optics and refractive Errors (1)
- Conjunctiva (1)
- Orbital Cavity and Lacrymal System (1)
- The Eyelids (1)
- Neuroophthalmology (1)
- Eye examination (1)
- Ocular Motility and Strabismus (1)
- Childhood ophthalmology (1)
- Cornea (1)
- Glaucoma (1)
- Lens and Vitreous Body (1)
- Uveal Tract (1)
- Ocular Trauma (1)
- Retina (1)

PRACTICALS

- Ophthalmic examination: tests of visual acuity. Eyeglass Prescription. Application of Contact Lenses (2)
- Ophthalmic examination: Conjunctiva. Inspection under a focused light. Eyedrops, Ointment and Bandages (2)
- Ophthalmic examination: Orbital Cavity and Nasolacrimal Duct (2)
- Ophthalmic examination: The Eyelids. Eversion. Inspection. (2)
- Ophthalmic examination: Direct Ophthalmoscopy. Swinging flashlight test. Direct and indirect light reflex. Near reflex (2)
- Ophthalmic examination: Perimetry. Pseudoisochromatic Plates. Visual Evoked Potentials, ultrasonography, optical coherence tomography, electrophysiology of the eye (2)
- Ophthalmic examination: Ocular Motility . Binocular Alignment. Cover test. (1) Maddox's cross. Use of prism lens. Determining the Type of Fixation. Eyeglass occlusion. Eye patching. Surgery in Strabismus. Orthoptic exercises (1)
- Ophthalmic examination in childhood ophthalmology (2)
- Ophthalmic examination: Slit lamp. Dye examination of the Cornea. Corneal Sensitivity (2)
- Ophthalmic examination: Measurement of Intraocular Pressure. Oblique illumination of the Anterior Chamber. Slit Lamp Examination. Optic Disc Ophthalmoscopy . Examination of the Retinal Nerve Fiber Layer, OCT (2)
- Ophthalmic examination: Lens. Retroillumination of the lens. Focal illumination with a slit lamp (2)
- Ophthalmic examination: Slit lamp biomicroscopy the surface of the iris. Indirect inspection of the root of the iris by gonioscopy. Inspection of the posterior of the pars plana - a three-mirror lens. Transillumination of the eye. Fluorescein angiography (2)
- Ophthalmic examination: Ocular Trauma. Patient History, Inspection, Ophthalmoscopy. Corneal and conjunctival foreign bodies – pried out. (2)

- Ophthalmic examination: Direct and Indirect Ophthalmoscopy. Contact lens examination. Ultrasonography. Fundus photography. Electrophysiologic Examination Methods. Photocoagulation. (2)
- Practical skills check (2)

At the end of the course students should be able to:

- describe symptoms and diagnostic possibilities, to consider other possible diagnoses and criteria for differentiating the disorder one from the other.
- choose proper ophthalmic examination and therapy for ophthalmologic disease and indications/contraindications related to the main diagnosis. The discussion of medical treatment includes dosage information and examples of preparations used.
- discuss critically over a wide spectrum of ophthalmologic diseases

IV. EXAMINATIONS

- Block Exams

Each student refers one of the items from lectures

- The Final Exam

Final exam includes test and oral exam.

Test type: multiple-choice questions.

V./I. LIST OF LECTURERS AND TEACHING STAFF

1. doc. dr. sc. Tomislav Jukić
2. dr. sc. Jelena Juri Mandić
3. doc. dr. sc. Miro Kalauz
4. doc. dr. sc. Rajko Kordić
5. doc. dr. sc. Tomislav Kuzman
6. Ivan Škegro, dr. med.
7. izv. prof. dr. sc. Smiljka Popović-Suić

V./II EXTERNAL ASSOCIATES:

1. Zlatko Juratovac, dr. med.
2. mr. sc. Sanja Perić

V./III UNTENURED LECTURERS:

1. Sanja Masnec, dr. med.
2. doc. dr. sc. Igor Petriček
3. doc. dr. sc. Tomislav Vidović
4. izv. prof. dr. sc. Nenad Vukojević

VI. LITERATURE

- Ophthalmology and Optometry, Cerovski et.al., 2016.

Translated Croatian student book “Ophthalmology” on LMS

- Handouts for seminars and practical work
- Additional readings (suggested by lecturer)

Lang KG. Ophthalmology.