Faculty of Medicine, University of Rijeka

Course: Ophthalmology
Manager: Prof.dr.sc. Goran Pelčić, MD.
Chair: Department of Ophthalmology
Study programme: Integrated undergraduate and graduate university study programme in dental medicine
Year of study: Year 3
Academic year: 2023/2024
Medicinski fakultet Sveučilišta u Rijeci

COURSE SYLLABUS

Course information (brief description of the course, general instructions, where and in what form classes are organized, necessary accessories, instructions on attendance and preparation for classes, student obligations, etc.):

Ophthalmology is a compulsory course in the third year of integrated undergraduate and graduate university study of Dental Medicine and consists of 10 hours of lectures and 5 hours of exercises, a total of 15 hours (1.5 ECTS). The courses are performed in the Clinical Hospital Center Rijeka.

The aim of the course is to provide basic knowledge and skills in the field of ophthalmology. The goal is to get to know students with the technique of complete eye examination as well as the most important procedures in the diagnosis and treatment of eye diseases. New convenings and facts from ophthalmic microsurgery have been adapted to dental students.

Content of ophthalmology courses:
A historical review of ophthalmology. General eye exam. Orbit.The tear device. Eyelids.staple. Cornea. The whites of the eyes. Lens. Diseases of the middle eye sheath. Glaucoma. It's glassware. Retina. Neuroophthalmology. Ophthalmic optics, refractions and refractive anomalies. Eye mobility and eye mobility disorders. Eye injuries. Nanotechnology in ophthalmology. Drugs and an eye.
Teaching:
Classes are taught in the form of lectures and exercises. The estimated duration of classes is a total of 4 days. During the exercises, the teacher shows and supervises the active participation of students in the performance of exercises. Teachers discuss with students the specifics of performing a particular exercise. During the classes, mandatory colloquiums will be held, and at the end of the classes a written test and an oral final exam will be held. By performing all teaching activities and taking the mandatory colloquium and final exam, the student earns 1.5 ECTS credits.

List of mandatory exam literature:

1.Harold A. Stein, Raymond M. Stein, Melvin I. Freeman. **The Ophtalmic Assistant.** eBook avaliable at Clinical Key base enabled by the Faculty of Medicine¨s Library. 10th Edition, 2018.

List of supplementary literature:

1.Jack J. Kanski, B.Bowling, ur. **Clinical ophtahalmology a systematic approach,** Seventh edition. Elsevier Saunders, Edinburgh, London, New York, Oxford, Philadelphia, St. Louis, Sydney, Toronto 2011.

Syllabus:

List of lectures (with titles and clarification):

P1. Introduction to ophthalmology and historical review.
Learning outcomes:
Introduce students to the aim of a course in ophthalmology.
Meet students and adopt knowledge about the historical facts of the development of ophthalmology.

P2. Orbital diseases, a tear apparatus and an eyelid.
Learning outcomes:
Acquire the knowledge and skills of diagnosis and therapy of diseases of the orbit of the tear apparatus and eyelids.
Describe the vascular congenital anomalies of the orbital region, vascular intra-orbital processes, inflammatory orbit processes, exophthalmus in systemic diseases, endocrine egfortalmus. Orbital tumors. Orbital injuries. causes of enophthalmus. Recognize dry eye syndrome. The most important diseases of the draining tearways. Diseases of the lacrimal gland. Describe the most common diseases of the eyelids.

P3. Diseases of the coupling and cornea.
Learning outcomes:
Acquire knowledge and skills of diagnosis and therapy of diseases of the coupling and cornea.
Describe the most important signs and types of conjunctivitis. Degenerative diseases of the coupling. Coupling tumors.
Describe the superficial inflammation of the cornea. Epidemic keratitis. Herpetic keratitis symptomatology. Allergic keratitis. Corneal ulcers. Degenerative changes in the cornea.

P4. Diseases of the iris and ciliary body.
Learning outcomes:
Acquire knowledge, skills of diagnosis and therapy of diseases of the iris and ciliary body.
Describe and explain the function of the iris. The most important congenital anomalies of the iris. Describe iridocyclitis, a type of iridocyclitis.

P5. Refractive disorders, lens disease.
Learning outcomes:
Acquire knowledge and skills of diagnosis and therapy of diseases of refraction disorders and lens diseases.
The most common refractive anomalies, definition and therapy. Describe the acuity of vision and the determination of refraction. Describe the accommodation mechanism and meaning. Prescribing glasses and contact lenses.
Specify the types of cataracts. Cataract surgery. What are the complications of cataract surgery. Define afakia and how it is corrected.

P6. Glaucoma and diseases of the optic nerve.
Learning outcomes:
Acquire the knowledge and skills of diagnosis and therapy of glaucoma and diseases of the optic nerve.
Definition of glaucoma and division. Describe the homeostasis of the eye. Medication treatment of glaucoma. Surgical treatment of glaucoma. Absolute glaucoma. Hypotonia of the eye.
Visual nerve description. Papilla stagnans description and consequences. Papilitis. Neuritis retrobulbaris. List the more important causes of retrobulbar bleeding in the optic nerve.

P7. Eye mobility and eye mobility disorders.
Learning outcomes:
Acquire knowledge and skills of diagnosis and therapy of eye mobility and mobility disorders.
Describe the degrees of bilncular vbido. Competitive strabismus. Heterophoria. Heterotropy. Convergent strabismus. Paralytic strabismus. Nystagmus. Pleoptics: diagnosis of amblyopia in the squinting eye. Fixation testing. Pleoptic exercises. Types of ambliopia. The definition of orthooptics.

P8. Eye injuries.
Learning outcomes:
Acquire knowledge and skills of diagnosis and therapy of eye injury.
Describe the contusions of the eyeball. Contusions of the eye adnexes. Describe perforative injuries to the eye and eye adnexes.
Foreign bodies in orbit and the eye. Sympathetic ophthalmia.

P9. Diseases of the middle eye envelope and retina.
Learning outcomes:
Acquire the knowledge and skills of diagnosis and therapy of diseases of the middle eye envelope and retina.
Describe the types of choriorethinitis with respect to localization. degenerative diseases of the choroid. Choroid tumors. Corioid ablation.
Diseases of the retina describe obstruction art. centralis retina and vene centralis retina. Retina ablation. Causes of retinitis centralis. Degenerative changes in the retina in high myopia. Retinal tumors.

P10. Nanotechnology in ophthalmology.
Learning outcomes:
Acquire knowledge and skills of diagnosis and therapy of diseases using nanotechnological methods.
Describe diagnostic and therapeutic nanotechnological methods in glaucoma, corneal, retinal and optic nerve diseases, and eye nanosurgery.

List of seminars with clarification:

List of exercises with clarification:

Ex.1. Otalmological history, ophthalmic documentation. Eye inspection and palpation.

Ex. 2. Focal lighting, pocket lamp testing. Testing with a biomycroscope with a rift lamp.

Ex. 3. Twisting the constellation (ectropication of eyelids). A swab of the coupling. Examination of the tear apparatus. Corneal reflex. Fluorescein rehearsal. Ophthalmoscopy- enlightenment of transparent eye media and examination of the eye background.

Ex.4. Examination of the pupils. Examination of the reaction of pupils to light (direct and indirect). Examination of visual acuity. Examination of the peripheral vision-of-the-vision of the field of vision by the medox of confrontation.

Ex.5. Examination of color sensations with pseudoisochromatic tables. Digital measurement of očng pressure. Eye motility testing (ductions, versions, vergence), cover and detection test (Cover-uncover test). Application of eye drugs: drops and ointments. A bandage on the eye.

Exercises in ophthalmology courses are performed at the Ophthalmology Clinic of the Clinical Hospital Center Rijeka.
Before accessing the exercises, students are obliged to adopt theoretical knowledge that they will perform practically.
Students will practically perform on patients and opature in outpatient clinics with the mentorship of the head of the news.

Student obligations:

Students are obliged to regularly attend and actively participate in all forms of teaching.

Exam (method of exam, description of the written/oral/practical part of the exam, scoring method, evaluation criteria):

ECTS bodovni sustav ocjenjivanja:

Student grading is conducted according to the current University of Rijeka Studies and studying regulation, and according to the Ordinance on student evaluation at the Faculty of Medicine in Rijeka (adopted at the Faculty Council of the Faculty of Medicine in Rijeka).
The work of students will be evaluated and evaluated during the performance of classes, and in the final exam. Out of a total of 100 points, during class the student can score 70 points, and in the final exam 30 points.
Student evaluation is done using ECTS (A-E) and the numerical system (1-5). Evaluation in the ECTS system is carried out by absolute distribution, and according to the graduate evaluation criteria.

Of the maximum 70 scoring points that can be achieved during class, the student must collect a minimum of 40 scoring points to take the final exam. Students who collect less than 40 grade points will have the opportunity for one remedial inter-examination and, if they meet the exam at this interim exam, they will be able to take the final exam. Students who collect between 40 and 49.9 scoring points (FX grade category) have the right to take the final exam, which is then considered a remedial exam and is not scored, in which case the final grade can only be enough 2E (50%). Students who collect 39.9 and fewer grade points (F grade category) must re-enroll in the course.

The student earns grade points by actively participating in the classes, performing the tasks set and going to the interim examination as follows:

I. During class, it is evaluated (maximum up to 70 points):
a) attendance (up to 5 points)
b) mandatory colloquium (up to 40 points)
c) mandatory test (up to 25 points)
Attendance (up to 5 points)

The student may miss 30% of the classes solely for health reasons, which he justifies with a doctor's apology. Attendance at lectures and exercises is mandatory. Reimbursement of exercises is possible with prior agreement with the manager.
If the student is justified or unjustifiably absent from more than 30% of classes, he cannot continue following the course and loses the possibility of taking the final exam. This collected 0 ECTS credits and was rated F.

Scoring attendance in class (lectures and exercises) will be performed as follows:

% attendance	rating points
70 – 85	3
86 – 100	5

a)Mandatory colloquium (up to 40 points)

During class, all students are obliged to join the colloquium **from basic and advanced life support** where they acquire a maximum of 40 points (range from 22-40). The colloquium is performed in the Skills Cabinet using a simulation computer program.
During the performance of colloquiums, the leader evaluates the adopted knowledge and skill of each student and evaluates the points as follows:

rating	score points
Enough	22
Good	28
Very good	34
Excellent	40

c) Mandatory test (up to 25 points)

The written test consists of 40 questions, and carries 25 rating points (range from 15-25; the criterion for obtaining scoring points is 50% of the correctly resolved questions).

Points earned on a written test are converted to grade points as follows:

Correct answers	rating points
0-20	0
21	15
22	16
23, 24	17
25, 26	18
27, 28	19
29, 30	20
31, 32	21
33, 34	22
35, 36	23
37, 38	24
39, 40	25

Final exam (30 rating points in total)

Who can take the final exam:
Students who have scored more than 50 points during class are obliged to take the final exam where they can achieve a maximum of 30 points.
Students who scored from 40-50 points during class (they belong to category FX) can take the final exam, having to recoup from 0-10% of the grade and can only get a 2E grade according to the Ordinance.

Who can't take the final exam:
Students who have scored less than 40 points during class are not entitled to take the final exam (they are enrolling in the course of the second year).

The final exam is an oral exam. Carries 30 rating points (range from 15-30).

Success in the final exam is translated into grade points as follows:

Rating	**score points**
Insufficient	0
Enough	15
Good	20
Very good	25
Excellent	30

To pass the final exam and final grade (including the addition of previously achieved grade points during class), the student in the final exam must be positively rated and achieve a minimum of 15 scoring points (50%).

Evaluation in the ECTS system is carried out by absolute distribution, that is, on the basis of the final achievement:

The possibility of teaching in a foreign language:

Other notes (related to the course) important for students:

Teaching content and all course-related notices as well as exam tremines can be found on the website of the Department of Ophthalmology.

TEACHING HOURS (for academic year 2023/2024)

Date	Lectures (time and place)	Seminars (time and place)	Exercises (time and place)	Teacher
15.01.2024.	L.. 1-3 (13,00-16,00)		Ex. 1. (15,00-16,00) Eye clinic	Prof.dr.sc. Goran Pelčić, dr. med.
16.01.2024.	L. 4-5 (8,00-10,00)		Ex. 2-3 (11,00-13,00) Eye clinic	Prof.dr.sc. Tea Mance , dr.med.
17.01.2024.	L. 6-7 (8,00-10,00)		Ex..4. (11,00-12,00) Eye clinic	Prof.dr.sc. Tea Mance , dr.med
18.01.2024.	L.8-9 (8,00-10,00 h.)		Ex. 5. (10,00-11,00) Eye clinic	Doc.dr.sc. Goran Pelčić, dr. med. Prof.dr.sc. Tea Mance , dr.med
19.01.2024.	L.10 (8-9,00 h.)			Prof.dr.sc. Goran Pelčić, dr. med.

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List of lectures, seminars and exercises:

	LECTURES (lecture topic)	Number of hours	Venue
L1	**Introduction to ophthalmology and historical review.**		Classroom
L2	**Orbital diseases, a tear apparatus and an eyelid.**		Classroom
L3	**Diseases of the conjuncivae and cornea.**		Classroom

L4	**Diseases of the iris and ciliary body.**		Classroom
P5	**Refractive disorders, lens disease.**		Classroom
L6	**Glaucoma and diseases of the optic nerve.**		Classroom
L7	**Eye mobility and eye mobility disorders.**		Classroom
L8	**Eye injuries.**		Classroom
L9	**Diseases of the choridaea and retina.**		Classroom
L10	**Nanotechnology in ophthalmology.**		Classroom
L11			
L12			
....			
	Total number of lecture hours	**10.**	

	SEMINARS (seminar topic)	Number of hours of classes	Venue
S1			
S2			
S3			
S4			
S5			
S6			
S7			
S8			
...			
	Total number of seminar hours		

	EXERCISES (exercise topic)
Ex.1	**Ophthalmic history, ophthalmic documentation. Eye inspection and palpation.**
Ex.2	**Focal lighting, pocket lamp testing. Testing with a biomycroscope with a ruptured lamp**
Ex.3	**Twisting the constellation (ectropication of eyelids). A swab of the coupling. Examination of the tear apparatus. Corneal reflex. Fluorescein rehearsal. Ophthalmoscopy- enlightenment of transparent eye media and examination of the eye background.**
Ex.4	**Examination of the pupils. Examination of the reaction of pupils to light (direct and indirect). Examination of visual acuity. Examination of the peripheral vision-of-the-vision of the field of vision by the medox of confrontation.**
Ex.5	**Examination of color sensors with pseudo-isochromatic tables. Digital measurement of IOP. Eye motility testing (ductions, versions, vergence), cover and detection test (Cover-**

	uncover test). Application of eye drugs: drops and ointments. A bandage on the eye.	
V6		
V7		
V8		
...		
	Total hours of exercises	**5**

	EXAM SESSIONS (final exam)
1.	19.01.2024. u 14,00 h.
2.	08.03.2024. u 14,00 h
3.	05.07.2024. u 14,00 h
4.	06.09.2024. u 14,00 h
5.	13.09.2024. u 14,00 h.
6.	
7.	