2026/2027

Univerza v Mariboru
Medicinska fakulteta

UČNI NAČRT PREDMETA / COURSE SYLLABUS	
Ime predmeta:	Oftalmologija
Course title:	Ophtalmology

Študijski program in stopnja Study programme and cycle	Študijska smer Study option	Letnik Year of study	Semester Semester
Splošna medicina, enovit magistrski študijski program		Četrti	7.
General medicine, Uniform master's degree study program		Fourth	7th

Vrsta predmeta (obvezni ali izbirni) / Course type (compulsory or elective)	obvezni compulsory
Univerzitetna koda predmeta / University course code:	

Predavanja Lectures	Seminar Seminar	Vaje Tutorial			Klinične vaje Clinical training	Druge oblike študija Other forms of study	Samost. delo Individual work	ECTS
		AV	LV	RV				
20	25				30		75	5

Nosilec predmeta / Course coordinator:	**Izr. prof. dr. Tomaž Gračner**

Jeziki /Languages:	**Predavanja / Lectures:**	slovenski/slovene
	Vaje / Tutorial:	slovenski/slovene

Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:	**Prerequisites for enrolling in the course or for performing study obligations:**
ŠTUDIJSKE OBVEZNOSTI ŠTUDENTOV: Predavanja (obvezna 50%), seminarji (obvezni 80%), praktične vaje (obvezne 100%), samostojno delo POGOJI ZA PRISTOP K IZPITU Opravljen kolokvij iz vsebine kliničnih vaj v okviru zahtevanega znanja, ki je naveden v katalogu znanj in veščin, vključno s predstavitvijo bolnika pri asistentu. Ocena: opravil/ni opravil	STUDY REQUIREMENTS FOR STUDENTS Lecturers (obligatory 50%), seminars (obligatory 80%), clinical work (obligatory 100%) REQUIREMENTS FOR TAKING THE EXAM Passing the exam in clinical work performed by an assistant including key skills and presentation of a patient. Grade: pass/fail

Vsebina (kratek pregled učnega načrta):	**Content (syllabus outline):**
Predavanja: Predavanja morajo zajeti osnovno znanje na področju oftalmologije in zagotoviti primerni nivo primarne očesne oskrbe. Študenti morajo poznati indikacije za napotitev k oftalmologu s poudarkom na nujnih stanjih.	Lectures: Ophthalmic education should include the basic knowledge to provide appropriate levels of primary eye care, the students should learn the indications and need for referral to ophthalmologist especally for emergencies. Students

Študenti morajo razumeti in poznati znake in simptome očesnih stanj, ki so povezani s pomembnimi sistemskimi boleznimi in diagnozami. Učni pripomočki, vključno z lastno slikovno dokumentacijo, izbrana literatura in ostale publikacije morajo biti zagotovljeni.

Teme:
1. Osnove oftalmologije – normalna očesna anatomija in fiziologija
2.Osnovne preiskovalne metode, anamneza
3.Bolezni vek, solznegaaparata in orbite
4.Bolezni veznice,roženice inbeločnice. Rdeče oko.
5.Leča in katarakta
6.Bolezni žilnice in očesnitumorji
7.Vitreoretinalne bolezni
8.Človeško okokot optični sistem, refrakcija. Refraktivnakirurgija
9.Pediatrična oftalmologija in škiljenje
10.Nevro-oftalmologija
11.Glavkom
12.Poškodbe očesa
13.Očesni znaki pri sistemskih boleznih
14. Nujna stanja v oftalmologiji
15. Ergooftalmologija

Vaje:
namenjene so pridobivanju praktičnega znanja pod vodstvom kliničnega asistenta v majhnih skupinah. Študent se seznani s pomenom oftalmološke anamneze, z oftalmoskopsko tehniko in oftalmoskopsko diagnostiko s posebnim poudarkom na očesno simptomatologijo, osnovnim oftalmološkim pregledom, kliničnim prikazom očesne patologije, povezanostjo z ostalimi vejami medicine, prvo pomočjo v oftalmologiji, izvajanjem nekaterih diagnostičnih postopkov, oceno bolezenskih sprememb, diferencialno diagnozo in terapevtskimi postopki.

should understand the signs and symptoms of ocular conditions that are associated with important systemic disease and diagnosis.Teaching materials, including own clinical photographs, selected readings from existing books and publications will be available.

Themes:

1.Fundamentals and principles of ophthalmology - normal ocular anatomy and physiology
2.Principles of ophthalmological examination, ocular history
3. Diseases of eyelid, lacrimal system and orbit
4. Disease of conjunctiva, cornea and sclera. Red eye.
5. Lens and cataract
6. Uveal disease and ocular tumors
7. Vitreoretinal diseases
8. Human eye as an optical system, refraction. Refractive surgery.
9. Pediatric ophthalmology and strabismus
10. Neuro-ophthalmology
11. Glaucoma
12. Eye trauma
13. Ocular manifestations of systemic diseases
14. Emergencies in ophthalmology
15. Ergoophthalmology

Clinical work:

are dedicated to mastering the learning objectives and clinical skills labeled as basic under the supervision of clinical assistent in small groups. The student is informed about the importance of ophthalmological history, ophthalmoscopic examination technique and diagnosis, clinical demonstrations of ocular pathology, ilustrative case method study and evidence-based medicine where ophthalmic education is paired with neurology, endocrinology, rheumathology and other field of medicine, first help in ophthalmology, performance of different diagnostic procedures, differential diagnosis and treatment.

Temeljni literatura in viri / Reading materials:

1. G.K. Lang: Augenheilkunde, 7th Edition 2024, Thieme
2. American Academy of Ophthalmology (all sections), Basic and Clinical science course, P.O. Box 7424, San Francisco, USA, 2024
3. J.J. Kanski: Clinical Ophthalmology. 10th Edition 2024, Elsevier
4. M.Yanof, Y.Duker. Ophthalmology 6th Edition 2022, Elsevier
5. J.F. Salomon: Kanskis synopsis of clinical Ophthalmology, 4th Edition 2022, Elsevier

Cilji in kompetence:

Cilji:je, da študent medicine spozna osnove anatomije, oftalmološkega pregleda, preiskovalne metode, direktno oftalmoskopijo, glavne vzroke poslabšanja vida, stanja

Objectives and competences:

Student should understand basic ocular anatomy, principles of ophthalmologic examination, perform direct ophthalmoscopy, understand important causes of

povezana z resnimi očesnimi stanji, ki zahtevajo takojšnjo napotitev k oftalmologu, pomen leukokorije, ambliopije in škiljenja pri otroku.	reduced vision, findings that are associated with serious ocular condition that required immediate ophthalmic care, importance for urgent referral for leukocoria, amblyopia and strabismus in a child.

Predvideni študijski rezultati:	**Intended learning outcomes:**
Znanje in razumevanje: Študent medicine mora biti sposoben nuditi ustrezno primarno oskrbo očesa in poznati nujna stanja. Poznati mora očesne manifestacije pri sistemskih boleznih kot del edukacije sodobnega zdravnika. Prenesljive/ključne spretnosti in drugi atributi: Vsak študent mora pokazati znanje na naslednjih področjih : • Določanje vidne ostrine brez in z korekcijo • Pregled gibljivosti zrkla • Ocena vidnega polja z metodo konfrontacije • Razložiti pomen širine zenice in njeno reakcijo na osvetlitev • Pregled sprednega segmenta s fokalno osvetlitvijo, vključno z evertiranjem zgornje veke • Pregled sprednjega segmenta z biomikroskopom • Pregled vidnega živca in zadnnjega pola z direktnim oftalmoskop • Odstranitev povrhnjih roženičnih in vezničnih tujkov • Sposoben mora biti postaviti naslednje diagnoze: konjunktivitis, katarakto, roženični ulkus, roženični tujek, degeneracijo makule, diabetično retinopatijo, hepertenzivno retinopatijo, glavkom, refraktivno motnjo, očesno travmo, edem papile, hemianoptične in bi-temporalne izpade v vidnem polju, akutni začetek paralize III. z ali brez prizadetost zenice, IV., VI: možganskega živca, akutni začetek škiljenja, leukokorijo.	Knowledge and Understanding: Medical student should be able to provide appropriate primary eye care and to know emergency situations. Understanding of ophthalmic manifestations of systemic diseases is a necessary for the comprehensive education for modern physicians. Transferable/Key Skills and other attributes: All students should demonstrate competency in this area: • Measurement of visual acuity without and with • correction, • Assessment of ocular motility • Determination of visual field with confrontation • technique • Interpretation of pupillary size and reaction to • the light • Penlight examination of the anterior segment, • including upper lid eversion • Slit lamp examination of the anterior segment • Examination of the optic nerve and posterior pole • with direkt ophthalmoscopy • Removal of superficial corneal or conjunctival • foreign body • Student should be able to make following diagnosis: conjuncivitis, cataract, corneal ulcer, corneal foreign body, macular degeneration, diabetic retinopathy, hypertensive retinopathy, glaucoma, refractive error, ocular trauma, papilledema, hemianoptic and bi-temporal visual field defects, acute onset of cranial nerve palsies III. With or without papillary involvment, IV., VI., acute onset strabismus, leukocoria.

Metode poučevanja in učenja:	**Learning and teaching methods:**
Predavanja, seminarji, klinične vaje s predstavitvijo bolnikov, samostojno delo	Didactic lectures, seminars, practical work with clinical demonstration, individual work

Načini ocenjevanja:	Delež (v %) / Share (in %)	**Assessment methods:**
Pisni izpit Ustni izpit Opombe: Izpit je sestavljen iz pisnega in ustnega dela. **Pisni izpit** je sestavljen iz 50 vprašanj Ocenjevalna lestvica pri pisnem delu izpita je : –56% - 65% 6 (zadostno) –66% - 75% 7 (dobro)	**50** **50**	Written exam Oral exam Notes: The exam is written and oral. **Written exam** consists of 50 questions. Grading scale for the written exam : –56% - 65% 6 (fail) –66% - 75% 7 (pass)

–76% - 85% 8 (prav dobro) –86% - 95% 9 (prav dobro –96 – 100% 10 (odlično) **Ustni izpit** je sestavljen 5 izpitnih vprašanj Ocena pri ustnem je 1 do 10.		–76% - 85% 8 (average) –86% - 95% 9 (good) –96 – 100% 10 (excellent) **Oral exam** consists of 5 exam questions. Grading scale for the oral exam ranges from 1 to 10.

Reference nosilca / Course coordinator's references:

GRAČNER, Tomaž. Screening for diabetic retinopathy : a twelve-month review. Acta clinica Croatica, ISSN 1333-9451, 2020, vol. 59, no. 3, str. 424-430. https://hrcak.srce.hr/file/360118, http://doi.org/10.20471/acc.2020.59.03.05, doi: 10.20471/acc.2020.59.03.05. [COBISS.SI-ID 45997059]

ŠARENAC, Tomislav, BEČIĆ TURKANOVIĆ, Anela, FERME, Peter, GRAČNER, Tomaž. A review of selective laser trabeculoplasty : "the hype is real". *Journal of clinical medicine*. Jul. 2022, vol. 11, issue 13, str. [1]-16. ISSN 2077-0383. https://www.mdpi.com/2077-0383/11/13/3879, https://doi.org/10.3390/jcm11133879, DOI: 10.3390/jcm11133879. [COBISS.SI-ID 114086659]

GRAČNER, Tomaž. Impact of short-term topical steroid therapy on selective laser trabeculoplasty efficacy. *Journal of clinical medicine*. 2021, vol. 10, issue 18, str. [1]-10, ilustr. ISSN 2077-0383. https://www.mdpi.com/2077-0383/10/18/4249, https://doi.org/10.3390/jcm10184249, DOI: 10.3390/jcm10184249. [COBISS.SI-ID 82697219]

GRAČNER, Tomaž. Comparative study of the efficacy of selective laser trabeculoplasty as initial or adjunctive treatment for primary open-angle glaucoma. *European Journal of Ophthalmology*. 2019, vol. 29, iss. 5, str. 524-531. ISSN 1724-6016. https://doi.org/10.1177/1120672118801129, https://journals.sagepub.com/doi/10.1177/1120672118801129, DOI: 10.1177/1120672118801129. [COBISS.SI-ID 6550079]

PAHOR, Dušica, GRAČNER, Tomaž. Comparison of the ocular trauma score and pediatric ocular trauma score as two prognostic models in pediatric open globe injuries = Vergleich des Ocular Trauma Score mit dem Pediatric Ocular Trauma Score als 2 prognostische Modelle zur Behandlung von offenen Augenverletzungen bei Kindern. *Klinische Monatsblätter für Augenheilkunde*, ISSN 0023-2165, Jan. 2021, vol. 238, issue 1, str. 67-72, doi: 10.1055/a-1194-5104. [COBISS.SI-ID 51057667

PAHOR, Dušica, GRAČNER, Tomaž. Kataraktoperation bei Menschen im hohen Alter = Cataract surgery in very old patients. *Klinische Monatsblätter für Augenheilkunde*, ISSN 1439-3999. [Online ed.], 2020, vol. 237, issue 8, str. 938-942. https://www.thieme-connect.de/products/ejournals/pdf/10.1055/a-0917-6966.pdf, doi: 10.1055/a-0917-6966. [COBISS.SI-ID 6731583],