SUBJECT (MODULE) DESCRIPTION

Subject (module) title	Code
Eye diseases	**AKIU 3115**

Lecturer(s)	Departments(s)
Coordinating: Assoc. Prof. Rimvydas Stanislovas Ašoklis PhD **Other: Assoc. Prof. Andrius Cimbalas PhD , Assoc. Prof. Saulius Galgauskas PhD, assist.Rasa Strupaitė PhD, lect. Aušrinė Misevičė**	Vilnius University, Faculty of Medicine, Ear, Nose, Throat and Eye Diseases Clinic, Santariškių str. 2, Vilnius, Lithuania

The Stage of Studies	The level of the Subject (Module)	The Type of the Subject (Module)
Integrated studies (Stage II)	-	Compulsory

Implementation form	Term of performance	Language(-es) of performance
Lectures, consultations and seminars in the auditorium. Practical training in the auditorium, in the eye disease operating theatre, in the treatment department, in examination rooms and consulting out-patient clinics	VI (spring) semester	Lithuanian, English

Requirements for the students	
Precondition: Students shall have heard the following courses of lectures: ZMAN 2115 (Human Anatomy), ZMAN 2215 (Human Anatomy), ŽMAN 2315 (Human Anatomy), HISM 2115 (Histology), HISM 2215 (Histology) CHIR 2115 (General Surgery), ZFIZ 2215 (Human Physiology), FARM 2215 (Pharmacology), PTAN 2115 (Morbid Anatomy), VLPM 2115 (Propaedeutic of Internal Medicine), VLPM 2215 (Propaedeutic of Internal Medicine), KLGE3115 (Clinical Genetics) , NEUR3215 (Neurology and neurosurgery), ENDK3115 (Endocrinology), UZLE3125 (Infection Diseases and Epidemiology), DEAL3115 (Dermatovenerology and Alergology), PEDN3215 (General Pediatrics and Neonatology), KONK3115 (Basics in Clinical Oncology and Cancer Biology), TRAU3115 (Traumatology, Orthopedics and Plastic Reconstructive Surgery), KLRA3115 (Clinical Radiology).	**Adjacent requirements (if applicable):** N/A

The scope of the subject (module) in credits	Total workload of a student	Contact work in hours	Self-study hours
5 credits	133	66	67

Purpose of the Subject (Module): competences to be developed during the studies
Purpose: to know the principles of etiology, pathogenesis, clinics, diagnostics and treatment in programme ophthalmologic diseases, the principles of urgent aid in the case of perforating ocular injuries, in the case of ocular inflammatory conditions, acute angle-closure glaucoma , acute retinal vascular obstruction, allergic conditions, cancer

and trauma cases. Learn the principles of examining and estimating visual acuity, visual field, colour vision, intraocular pressure and visual field reference setting, to distinguish the norm from pathology. Be able to instil drops and insert ointment into the conjunctival sack, evert eyelids.		
Objectives of the Subject (Module) of the Studies	**Methods of the Studies**	**Assessment Methods**
General Competences		
Act with integrity and ethical obligations; be emphatic; be critical and self-critical in thinking; be creative and initiative in achieving goals; be capable of communicating with others;	Practical training in the auditorium, in the eye disease operating theatre, in the treatment department, in examination rooms and consulting out-patient clinics	Continuous assessment of practical training in the auditorium, in the eye disease operating theatre, in the treatment department, in examination rooms and consulting out-patient clinics
Assess the scope of personal competence and, if necessary, ask for assistance; address the problems and take decisions; communicate and work jointly in the team with specialists from other fields and experts in other sciences.	Practical training in the auditorium, in the eye disease operating theatre, in the treatment department, in examination rooms and consulting out-patient clinics	Continuous assessment of practical training in the auditorium, in the eye disease operating theatre, in the treatment department, in examination rooms and consulting out-patient clinics
Subject Competences		
Know the basics in the clinical and surgical anatomy of eye accessories and the eyeball, the physiology of central vision, colour vision and peripheral vision. Be able to relate anatomic peculiarities with their impact on the clinical course of the condition, impact of etiopathogenesis of diseases on physiology and variations thereafter. History of the Ophthalmology.	Practical training in the auditorium. Students learn examination methods by examining each other under the supervision of the teacher; study moulages, schemes, posters and other related literature.	Continuous assessment of practical training in the auditorium. Written control work is done at the end of the subject study.
Understand the basics in the optical eye system and the physical eye refraction system. To know clinical refraction and its types. To know the main examination methods of refraction, the clinics of refraction types, and the principles and ways of correcting refraction defects. Understand the selection of glasses and the prescription thereof. Understand the accommodation and its possible disorders. Know the basics in the anatomy of the extraocular muscles, be able to diagnose strabismus and know its main types as well as the essentials of treatment. .	Practical training in the auditorium, students learn examination methods by checking each other and evaluating normal refraction, schemes and posters. Testing of patients through the participation in examinations and treatment plans at the treatment department of eye diseases, at consulting out-patient clinics and examination rooms. Discussions on essential topics at workshops and seminars. Consultations (responses to the presented questions, discussion). Students shall be able to apply scientifically based evidences in practice; search for the required medicinal literature, assessing it critically. Consult patients in a professional and efficient way considering their needs.	Continuous assessment of practical training in the auditorium, in the treatment department, in examination rooms and consulting out-patient clinics. Questions raised at the seminars and the responses of students shall be assessed. Written control work is done at the end of the subject study.
Know the etiology, pathogenesis, clinics, diagnostics, medicinal and surgery treatment, complications and prevention of congenital and acquired diseases of eyelids, conjuctiva and	Theory is presented during lectures (in a traditional form including dialog elements, slides, schemes, posters). At	Continuous assessment of practical training in the auditorium, in the treatment department, in examination

lachrymal gland. Know the peculiarities of the above eye accessories in adults and children. Know how to define the treatment and know when to refer patients to the specialist ophthalmologist consultation. .	seminars students make presentations and discuss the main topic. Practical training in the auditorium, in the treatment department, in consulting out-patient clinics. Students shall be able to apply scientifically grounded evidence in practice; search for the required medicinal literature, assessing it critically. Consult patients in a professional and efficient way considering their needs. Students shall be able to prescribe adequate and proper treatment, combine respective medicine and any other methods of treatment within the clinical context; assess the suitability of the medicine and other treatment methods as well as the potential benefit or harm.	rooms and consulting out-patient clinics. Questions raised at the seminars and the responses of students shall be assessed. Evaluation of presentations prepared by the students with reference to the latest medicinal literature.
Understand the etiology, pathogenesis, clinics, diagnostics, medicinal and surgery treatment, complications and prevention of inborn and acquired corneal diseases. Know, who may be corneal donors, know the selection criteria for corneal donors, and know corneal conditions suitable for transplantation. Understand the principles of treatment in the case of reaction to the rejected corneal transplant. Know systematic conditions of patients leading to the damaged cornea. Be able to prescribe treatment and know when to refer patients with corneal conditions for further specialist ophthalmologist consultations.	Practical training in the auditorium, in the treatment department, in the operating theatre, in consulting out-patient clinics and examination rooms. Testing of patients through the participation in examinations and treatment plans, observation of operations. Observation of operations in the operating theatre and watching on the monitor in the auditorium using the collected video material.	Continuous assessment of practical training in the auditorium, in the treatment department, in examination rooms and consulting out-patient clinics, in the consulting-room of corneal conditions and contact lenses. Written control work is done at the end of the subject study
Understand the etiology, pathogenesis, clinics, diagnostics, medicinal and surgery treatment, complications and prevention of congenital and acquired uveal tract diseases. Know systematic conditions of patients leading to alterations in the uveal tract. Be able to prescribe treatment and know when to refer patients with uveal tract conditions for further specialist ophthalmologist consultations. Know the epidemiology of tumours inside the eye, clinics and treatment principles for adults and children. Understand the meaning and significance of the fluorescent angiography test for the diagnosis and treatment of uveal tract disease.	Practical training in the auditorium, in the treatment department, in consulting out-patient clinics and testing. Studying of fluorescent angiography tests of patients. Main topics discussed at seminars.	Continuous assessment of practical training in the auditorium, in the treatment department, in examination rooms and consulting out-patient clinics. Questions raised at the seminars and the responses of students shall be assessed. Written control work is done at the end of the subject study.

Understand the etiology, pathogenesis, clinics and diagnostics of congenital and developed lens diseases. Understand the principles of treatment and possible complications. Know aphakia and the possible ways of correcting it. Know the principles of systematic preparation of patients for cataract operation and the basics in post-surgery care and supervision.	Practical training in the auditorium, in the treatment department, in the operating theatre, in consulting out-patient clinics. Studying of radiological tests of patients. Observation of operations in the operating theatre and on the monitor in the auditorium using the collected video material. Instructions are given on how to keep properly medicinal documentation and save the files; be able to use computers and make search for information sources; keep and update information. .	Continuous assessment of practical training in the auditorium, in the treatment department, in the operating theatre, in examination rooms and consulting out-patient clinics.
Understand the etiology, pathogenesis, clinics, diagnostics, medicinal and surgery treatment, complications and prevention of congenital and developed retina diseases. Know possible retina conditions in the case of systemic diseases. Understand hypertensive, diabetic and prematurity retinopathy. Know the symptoms of retinal break and detachment. Have an understanding about the optic nerve neuropathy, neuritis and alterations in the case of systemic diseases.	Practical training in the auditorium, in the treatment department, in the operating theatre, in consulting out-patient clinics, in testing-rooms. Testing of patients through the participation in examinations and treatment plans, observation of operations. Observation of operations in the operating theatre and watching on the monitor in the auditorium using the collected video material.	Continuous assessment of practical training in the auditorium, in the treatment department, in examination rooms and consulting out-patient clinics. Questions raised at the seminars and the responses of students shall be assessed. Written control work is done at the end of the subject study.
Understand intraocular pressure; know the measuring principles and methods. Understand eye hypotension and hypertension. Understand the etiology, pathogenesis, clinics, diagnostics, medication and surgery treatment, complications and prevention of congenital and developed glaucoma. Be able to diagnose acute angle-closure glaucoma and know the clinics, diagnostics and treatment methods in the case of acute angle-closure glaucoma . Know the principles of long-term care of patients with glaucoma conditions and be able to give recommendations for them.	Practical training in the auditorium, in the treatment department, in the operating theatre, in the glaucoma test-room of consulting out-patient clinics, in testing-rooms. Testing of patients through the participation in examinations and treatment plans, observation of operations. Observation of operations in the operating theatre and watching on the monitor in the auditorium using the collected video material.	Continuous assessment of practical training in the auditorium, in the treatment department, in examination rooms and consulting out-patient clinics. Questions raised at the seminars and the responses of students shall be assessed. Written control work is done at the end of the subject study.
Understand the etiology, pathogenesis, clinics, diagnostics, medication and surgery treatment, complications and prevention of eye traumas (burns, contusions, perforating eye injuries). Know first aid principles in the cases of eye trauma and be able to provide first aid thereof. Know the principles of carrying out incapacity for work expertise in the case of ocular alterations.	Practical training in the auditorium, in the treatment department, in the consulting out-patient clinics, in testing-rooms. Studying the examination of patients with eye traumas, watching on the monitor the collected archive video material on surgery treatment of patients with eye traumas. Main topics are discussed at seminars.	Continuous assessment of practical training in the auditorium, in the treatment department, in examination rooms and consulting out-patient clinics. Questions raised at the seminars and the responses of students shall be assessed. Written control work is done at the end of the subject study.

Themes / Topics	Contact workload in hours							Time and tasks of self-study	
	Lectures	Consultations	Seminars	Practical training	Laboratory works	Practice	**Total Contact work**	**Self-study**	**Tasks**
1. Introduction into the clinics. Eye anatomy, physiology – central, peripheral, colour, binocular vision, light adaptation, methods of measuring and testing. Clinical refraction and its testing methods. Refraction defects, correction, accommodation and measuring. Presbyopia.	2	-	3	3	-	-	**8**	**8**	Get ready for practical training on eye anatomy and methods for testing vision functions. Students learn testing methods by examining each other, measuring central, peripheral, colour, binocular vision. Studying of schemes, posters and moulages; analysis of the latest literature. Get ready for practical training on the clinical eye refraction and its testing methods. Students learn testing methods by examining each other, and measuring clinical refraction by using skiaskopy and autorefrectometry. Studying of schemes, posters and moulages. Students learn to measure the interpupillary distance; select and prescribe glasses.
2. Extraocular muscles. Strabismus, testing methods, treatment principles. Lacrimal apparatus, its diseases, examination methods, and the principles of treatment.	-	-	3	3	-	-	**6**	**7**	Get ready for practical training on eye extraocular muscles, types of strabismus and treatment principles. Preparations for practical training on the anatomy of the lacrimal apparatus, examination methods, and the principles of treatment. Students learn testing methods by examining each other. Tests are made by using four dots test, prisms.

									Demonstration of lacrimal probing and rinsing of lacrimal ways. Studying of schemes, posters and moulages.
3. Anatomy of eyelids and conjunctiva, examination, diseases and treatment.	2	-	3	3	-	-	**8**	**8**	Get ready for practical training on the anatomy and physiology of eyelids and conjunctiva, diseases, ways of examination and treatment. Students learn testing methods by examining each other. They learn to evert the eyelids, and examine conjunctiva in the direct light. Studying of schemes, posters and moulages.
4. Testing methods for cornea and uveal tract, diseases and the principles of treatment.	2	-	3	3	-	-	**8**	**8**	Get ready for practical training on the anatomy and physiology of cornea and uveal tract, and testing methods. Students learn to measure corneal sensitivity, examine the pupillary reaction to the light. Testing of patients and studying the findings. Survey of the eye tissue donor bank. Students acquire the basics in reading fluorescence angiogrammes. Round table discussion.
5. Lens diseases, testing methods, treatment principles.	2	-	3	3	-	-	**8**	**8**	Get ready for practical training on lens anatomy, diseases and the ways of treatment. Examination of patients and studying of the findings. Biomicroscopy of the anterior segment is made. Cataract removal operation is observed at the eye operation theatre. Watching of the collected video materials on the subject.
6. Glaucoma. Testing methods and treatment	2	-	4	3	-	-	**10**	**10**	Get ready for practical

principles.									training on eye chamber fluid metabolism and possible disorders. Perform preliminary measurement of the field of vision for each other and for patients with the vision field alterations. Learn to measure eye pressure; study the anamnesis (history) of patients attended at the treatment department of eye diseases.
7. Diseases of retina and optic nerve, examination methods and treatment principles.	4	-	4	3	-	-	**10**	**10**	Get ready for practical training on the anatomy of retina and optic nerve, diseases and examination methods. With the help of direct and indirect ophthalmoscopy students make tests on each other examining the eye fundus; learn to examine the disk of the optic nerve and retina veins; study archival pictures of eye fundus;read their presentations.
8. Eye traumas. Diagnostics and the principles of treatment. First aid.	2	-	3	3	-	-	**8**	**8**	Get ready for practical training on eye traumas, etiology, principles of providing first aid in the case of burns and perforating eye injuries. Examination of patients with eye traumas and analysis.
In total:	**16**		**26**	**24**			**66**	**67**	

Assessment Strategy	**Weight**	**Reporting**	**Assessment Criteria**

	in %	time	
Exam at the end of the semester	100%	June	The exam consists of: 20 short questions on theory, assessed by 1 point each, amounting to a maximum of 20 points (66% of the exam weight), 1 clinical case assessed by 10 points maximum (34% of the exam weight). The maximum amount of points is 30, which is divided by 3, and assessed in the following way: **10 (ten points):** excellent knowledge and skills. The level of evaluation 29-30 points. **9 (nine points):** very good knowledge and skills. The level of evaluation 26-28 points. **8 (eight points):** good knowledge and skills with incidental mistakes. The level of evaluation 23-25 points. **7 (seven points):** satisfactory knowledge and skills with mistakes. The level of evaluation 20-22 points. **6 (six points):** weak knowledge and skills with many mistakes. The level of evaluation 17-19 points. **5 (five points):** very weak with essential mistakes. Yet, knowledge and skills are within the set requirements. The level of evaluation 14-16 points. **Unsatisfactory: ≤ 13.**

Author	Year of publication	Title	No of the periodical or Volume of the publication	Publishing place and Office or Internet link
Obligatory literature Elsevier				
J. Kanski	2015	Clinical ophthalmology		Elsevier
A. Blužienė V. Jašinskas	2005	Akių ligų vadovas / Eye disease manual/		A.S. Narbuto leidykla
Additional literature				
R. Bagdonienė, R. Sirtautienė,	2001	Akių ligų atlasas /Atlas of eye diseases/	I and II	Vilnius, Alma littera