

OPTOMETRIST CURRICULUM

1479

Tallinn 2011

Educational institution	TALLINN HEALTH CARE COLLEGE				
Code of educational institution	70003980				
Title of study programme	OPTOMETRIST				
Title of study programme in English	OPTOMETRIST				
Cycle of higher education studies	Professional higher education studies				
Study programme code in EHS	<table border="1"> <tr> <td>1</td> <td>4</td> <td>7</td> <td>9</td> </tr> </table>	1	4	7	9
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Data about the right for conducting studies in study programme	The study programme belongs to “Health care” study programme group in which it is entitled to carry out studies. Decree No 178 of the Government of Republic from 18.12.2008.				
Primary registration of study programme	Approved by directive of the Minister of Education and Science No 975 from 05.09.2002				
Date of approving the version of study programme in educational institution	The study programme has been approved by the council of optometrist study programme on 27.04.2011. The study programme has been approved by decision No 9.2 of Tallinn Health Care College council from 14.06.2011.				

Broad area of study	Health and well-being
Field of studies	Health
Group of study programme	Health care
Main field (or fields) of study in study programme and their volume (ECTS)	optometrist 210 ECTS
Minor field (or fields) of study, other possible specializations in study programme and their volume (ECTS)	The study programme has no minor fields of study or specialization
Study forms	Daily studies, cycle studies

Nominal length of studies	3,5 years
Volume of studies in European credit point system (ECTS):	210
Volume of compulsory subjects (ECTS)	202
Volume of elective subjects (ECTS)	4
Volume of optional subjects (ECTS)	4
Language of instruction:	Estonian
Other languages necessary for achieving learning outcomes	English
Conditions for starting studies	secondary school leaving certificate, vocational secondary school leaving certificate, or a corresponding qualification
The objective of study programme The objective of study programme is to train specialists with professional higher education who evaluate and correct visual acuity – optometrists whose knowledge and skills enable them to work in optics shops, in clinics dealing with vision correction and treatment, in occupational health care enterprises, in research institutions dealing with vision ergonomics and visual perception, and in wholesale firms of optics products. The main essence of optometrist’s professional activity is the evaluation and correction of person’s visual acuity, recommending and fitting suitable optical devices, and assembling spectacles.	

Learning outcomes of study programme Having passed the optometrist study programme, the student: <ol style="list-style-type: none"> 1. evaluates client’s visual acuity and determines the most suitable devices for correcting client’s vision, 2. fits and assembles spectacles and other devices for vision correction accordingly with prescribed parameters and client’s needs; 3. handles on professional level all work instruments and devices listed in optometrist’s professional standard and can maintain them, if needed; 4. collects and interprets new information using suitable methods and instruments; 5. behaves ethically and tolerantly with all persons, irrespective of their origin or national identity; 6. improves oneself professionally and orients in professional innovations.
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Conditions of fulfilling study programme There are 8 modules in study programme:	
Optics and spectacle lenses	22 ECTS
Assembling of spectacles	22 ECTS
Vision examination	58 ECTS
Ophthalmology	28 ECTS
Human studies	10 ECTS

Disease studies	10 ECTS
Professional development	20 ECTS
Research	19 ECTS
Of which:	
Volume of placement is	45 ECTS
Volume of Final thesis/Final exam	4 ECTS
Volume of elective subjects	4 ECTS
Volume of optional subjects	4 ECTS

Options for passing the study programme	In addition to compulsory subjects, the student has a possibility to acquire deepened knowledge in the volume of 4 ECTS in areas related to ophthalmology, ophthalmologic examination and/or fitting contact lenses. Optional subjects in the volume of 4 ECTS enable the student to broaden one's outlook in health care areas in which the student is interested in.
Conditions for passing study programme	Passing study programme in full volume, and final exam or final thesis passed with positive grade.
Type of diploma issued upon graduation	<i>Diploma of professional higher education</i>
Documents issued upon graduation	<i>Diploma of professional higher education with academic transcript and Diploma Supplement in English.</i>
Possibilities for continuing studies	Master's level degree studies
Access to labour market	Has adopted the learning outcomes for working as an optometrist
Additional info	

EXPLANATORY LETTER FOR OPTOMETRIST STUDY PROGRAMME

Starting from the 2011/2012 academic year, the following amendments have been introduced in the optometrist study programme:

1. The formulations of module's objectives and learning outcomes have been corrected.
2. The volume of modules has been amended as follows:
 - 2.1. Optics and spectacle lenses: 22 ECTS (in previous version: 20 ECTS)
 - 2.2. Assembling of spectacles: 22 ECTS (in previous version: 30 ECTS)
 - 2.3. Vision examination: 58 ECTS (in previous version: 40 ECTS)
 - 2.4. Ophthalmology: 28 ECTS (in previous version: 25 ECTS)
 - 2.5. Pre-diploma placement: 9 ECTS (in previous version: 15 ECTS)
 - 2.6. Professional development: 19 ECTS (in previous version: 20 ECTS)
 - 2.7. Research: 18 ECTS (in previous version: 15 ECTS)
 - 2.8. Elective subjects: 4 ECTS
 - 2.9. Optional subjects: 4 ECTS
 - 2.10. Final thesis/Final exam 4 ECTS (in previous version: 8 ECTS)
3. The module „Vision examination“ have been completed with subjects „Occupational vision“ (4 ECTS), „Basics of vision examination“ (3 ECTS) and „Vision improvement and binocular vision“ (4 ECTS).
4. The change in the volume of placement is related with the larger proportion of placements in the modules of study programmes.

The intention of amending subject titles in modules and bringing forth single subjects is to guarantee a better understanding for students about the subjects taught, and a more comfortable organizing of general studies.

When comparing with previous version of study programme, there have been no modifications in the programme's title, conditions for starting studies, the volume/nominal length of studies, language of studies, possibilities of specializing or in the classification of contents.

THE EXPECTED FIELD OF ACTIVITY OF THE GRADUATES

Originating from the profile of the study programme, the optometrist's professional activity is connected with working in optics stores, clinics and institutions dealing with occupational health.

THE BASIS OF STUDY PROGRAMME AND THE ORGANIZATION OF PLACEMENT

The „Optometrist professional standard“ has been taken as a groundwork for drawing up the current study programme. Through professional competencies, the aforementioned standard establishes that an optometrist is a specialist with professional higher education, who:

- knows the specific differences resulting from eye structure and incomplete functioning that influence visual acuity and visual perception, and can correct these according to needs;
- knows different optical instruments for correcting visual acuity, and can recommend and fit them if necessary;
- is able to evaluate adequately the person's visual needs by proceeding from her/his behavioural or working habits and needs;
- is able to assemble spectacles with different purpose and structure, and to repair them if needed;
- knows the optic and non-optic instruments meant for defective vision, and can recommend them according to the situation;
- knows the most common eye diseases and is competent for recommending ophthalmologic consulting.

In professional activity, the optometrist is expected to have the following qualities: precision, correctness, commitment to one's speciality, following of profession ethics, stress resistance, ability for decision making, sense of responsibility and good communication skills.

According to the orientation of study programme, the training of optometrists is oriented primarily for working in optics stores.

The objective of study programme is to provide contemporary knowledge about society together with speciality studies, in order to support the growth in the student's professional identity and the coping of graduates in labour market.

The study programme proceeds from the following legal acts and basic documents of the profession:

- Republic of Estonia Law on Education (dating from 25.07.1998);
- Universities Act, 18.02.1995;
- Applied Higher Education Institution Act, dating from 20.06.2005/01.01.2009, decision of Minister of Education and Research No 864;
- Standard of Higher Education, Government Decree No 178 dating from 18.12.2008;

- Statute of Tallinn Health Care College, Government decree No 28, 29.01.2009;
- Optometrist professional standard (Decision of the Estonian Qualification Authority No 31, 03.12.2007);
- European Council of Optometry and Optics: requirements for euro-diploma in optometry (ECOO European Diploma in Optometry, ECOO General Assembly, 1998, London)

The philosophy of study programme results from the profession's philosophy, the starting point of which is mathematical-physical and also nature-scientific – associated with a health care speciality's ethical and acknowledged profession identity.

The organization of placements included in study programme is arranged in cooperation with employers. The volume of placement throughout the study period is 45 ECTS (21,4%). Both the students and employers get detailed information about the objectives, duration and reporting of the placement. The college mentors are in regular contact with mentors from training base and with employers.

Placement takes place during the whole study period - it supports the adopting of speciality subjects and is connected with the step-by-step understanding about the whole speciality.

Course I – “Introductory placement in optics store”, during which the student familiarizes with work in optics store, observes the activity of optometrists and sales-persons, and assists them in simpler activities. The student will get a general overview about what is happening in optics store, adopts the primary understanding about customer service and the principles of vision examination.

Course II - “Vision examination placement” and “Assembling of spectacles placement”. By the beginning of placement, the student has adopted the theoretical and practical basics of vision examination, knows the principles of customer service and has also acquired the main skills for assembling spectacles. Placement is conducted through the consulting and instructing of training base mentor. At the end of placement, the student submits to the chair of optometry the assessment sheet from training base together with a written placement report.

Course III – “Vision examination placement” and “Ophthalmology placement”. During the “Vision examination placement”, the student applies what she/he has adopted in college and previous placements under the supervision of experienced mentor. In addition to prescription of

spectacles, vision examination is carried out and contact lenses are fitted. Ophthalmology placement takes place in clinic under the supervision of an ophthalmologist. The student can identify and observe different pathologies and traumas connected with eye. At the end of the placement the student submits the assessment sheet from training base and a written placement report. During a placement seminar, all students present also an oral summary to fellow students and lecturers about the placement.

Course IV - „Pre-diploma placement”. During course III, the student has adopted the theoretical principles of optometrist profession and passed also 5 different placements during which a complex understanding about the polyfunctional essence of the profession has developed. During the “Pre-diploma placement”, the student solves independently the emerged problems and tasks, receiving tips and useful recommendations from mentor. By the end of the placement, the student grows into a specialist who meets the qualification requirements stated in optometrist professional standard.

REQUIREMENTS SET FOR STUDY PROGRAMME AND QUALITY OF STUDIES

Optometrist study programme conforms with the general course of activities of Tallinn Health Care College. The objectives and outcomes of study programme correspond to general requirements set for professional higher education, and also to requirements guaranteeing optometrist’s professional activity.

The contents and development of study programme is guided by the study programme council which consists of lecturers from the chair, optometry students, alumni, employers’ representatives and foreign experts. The study programme council follows and analyzes the contemporary development trends in optometry and, if needed, presents recommendations to the college council for approving amendments in study programme and making enhancements in study environment.

The carrying out of studies in the frames of implementing the study programme is fully covered with lecturers with higher education.

The required quality of training and the graduates’ professional competence is guaranteed by:

- the structure of study programme and conformity to professional requirements;
- the constant development of the study programme’s content in accordance with developments in the area of vision examination;

- enhancing teaching methods according to new possibilities when using IT;
- raising the professional and pedagogical competence of lecturers through different complementary courses, professional placement and working as exchange lecturer;
- development and deepening of cooperation between lecturers and students.

The development tendencies and strategy of optometrist study programme are connected with factors that influence directly or indirectly optometry as a profession and as a specific health care area. The most important of them are:

- changes and developments in the course of action of optometrist's profession resulting from the development of optic correction instruments;
- changes in the legislature of health care system;
- changes in the legislature of educational system;
- health care reforms;
- technological changes in ophthalmology and health care;
- demographic changes in society.

THE MODULES AND SUBJECTS OF STUDY PROGRAMME, THE OBJECTIVES AND LEARNING OUTCOMES

Module title: Optics and spectacle lenses		Volume: 22 ECTS Code: 4OP
Objectives	<ol style="list-style-type: none"> 1. To provide basic knowledge about the essence and spreading of light in our surrounding environment, and in optical environments with different character; 2. to provide an overview about the refraction errors of human eye, their peculiarities, and about the possibilities and methods for correction; 3. to provide detailed knowledge about the structure, functioning mechanisms and using possibilities of different ophthalmic lenses. 	
Learning outcomes	<p>Having passed the module, the student:</p> <ol style="list-style-type: none"> 1. has an overview about the physical essence, qualities and spreading of light in different environments, is able to describe verbally and mathematically the possible situations connected with light and optics; 2. identifies eye amethropies, and knows the scientific and practical aspects related with their correction; 3. knows and is familiar with different optical lenses, lens systems and their construction principles, can analyze and express them graphically and mathematically; 4. is able to handle simple optical measuring appliances and apparatuses for evaluating the characteristics of ophthalmic lenses; 5. evaluates professionally and critically the impact of different ophthalmic lens constructions on human vision, and can prevent and/or correct possible problems; 6. relying on one's knowledge and experiences - evaluates different tasks and upcoming problems, and solves them by analyzing independently the different aspects of possible situation by proceeding from the necessities and well-being of the client. 	
Module assessment: Subject-based assessment of the module.		
Subjects		
Code	Subject title	Volume
4OP09/SO	Introduction to optometry	4 ECTS
Objective	To provide the basic knowledge about eye amethropies and their correction possibilities, and to explain the essence of accommodation and its connection with eye's close and far off point.	
Learning outcomes	<p>Having passed the subject, the student:</p> <ol style="list-style-type: none"> 1. is able to evaluate the range of human eye amethropy and 	

	<p>possible ways of correction;</p> <p>2. is able to describe human vision range and accommodation ability by relying on given parameters;</p> <p>3. has a perception about vision physiology.</p>	
Code	Subject title	Volume
4OP09/OL	Theory of ophthalmic lenses	6 ECTS
Objective	To provide detailed knowledge about the different types and constructions of spectacle lenses, about their surface coverings and ways of improving their quality.	
Learning outcomes	<p>Having passed the subject, the student:</p> <ol style="list-style-type: none"> 1. knows the vocabulary and terminology used in the profession, and is able to use it; 2. knows the optic constructions of lenses; 3. knows the different ways of using spectacle lenses; 4. knows the methods of post-processing the quality of lenses with the aim of enhancing the optical qualities of lenses; 5. by proceeding from client's necessities, can recommend best appliances for correcting vision. 	
Code	Subject title	Volume
4OP11/OP	Optics	12 ECTS
Objective	To provide basic knowledge about the essence of light and its spreading in our surrounding environments and in optical environments with different nature.	
Learning outcomes	<p>Having passed the subject, the student:</p> <ol style="list-style-type: none"> 1. has an overview about the physical essence, qualities and spreading of light in different environments, 2. is able to describe verbally and mathematically the possible situations connected with light and optics; 3. knows and is familiar with different optical lenses, lens systems and their construction principles, can analyze and describe them graphically and mathematically; 4. is able to handle simple optical measuring appliances and apparatuses for evaluating the characteristics of ophthalmic lenses. 	

Module title: Assembling spectacles	Volume: 22 ECTS Code: 4PK
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Objectives	<ol style="list-style-type: none"> 1. To provide a complete overview for student about the materials and their features of spectacle frames, lenses and contact lenses used in optics industry; 2. to provide an overview about the different methods of processing spectacle lenses, assembling and repairing spectacles; 3. to provide basic knowledge about the matching of different spectacle lens materials and types with spectacle frames of different structure or materials, and about possible bottlenecks. 	
Learning outcomes	<p>Having passed the module, the student:</p> <ol style="list-style-type: none"> 1. recognizes and knows the features of materials of different spectacle frames and lenses, and can adequately evaluate the fitting of components with specific work task and with client's needs; 2. knows the work principles and safety measures of facilities for manufacturing spectacles and can handle different grinders for spectacle lenses by following user instructions; 3. is able to handle different hand tools and electrical appliances used for assembling different spectacles, and knows the necessary safety and maintenance measures; 4. knows and can apply the methods of adjusting different spectacle frames, can evaluate and analyze client's vision need in a way that guarantees the best final result in selecting spectacle frames and lenses; 5. evaluates different tasks and problems by relying on one's knowledge and experiences, and solves them independently by analyzing different aspects of situation by proceeding from client's needs and well-being. 	
Module assessment: Subject-based assessment of the module.		
Subjects		
Code	Subject title	Volume
4PK11/PK	Assembling of spectacles	8 ECTS
Objective	<ol style="list-style-type: none"> 1. To provide the necessary basic knowledge for the student about different appliances and hand-tools for assembling spectacles; 2. to enhance the student's manual skills for processing spectacle lenses and assembling spectacles; 3. to provide knowledge and skills for curving spectacles and minor repairing. 	
Learning outcomes	<p>Having passed the subject, the student:</p> <ol style="list-style-type: none"> 1. is able to handle different appliances and workbenches for assembling spectacles and processing spectacle lenses by proceeding from user manuals and safety measures; 2. is able to process spectacle lenses of different materials by following energy and environment saving principles; 3. assembles spectacles with different complexity level accordingly to given parameters and allowed tolerances; 	

	4. is able to conduct the bending, curving and minor repairing of spectacle frames accordingly with client's needs.	
Code	Subject title	Volume
4PK11/MÖ	Material studies	2 ECTS
Objective	<ol style="list-style-type: none"> 1. To provide knowledge to student about the general and specific features of materials; 2. to provide detailed knowledge about ophthalmic spectacle lenses and the materials of spectacle frames, their qualities and the possibilities for enhancing them. 	
Learning outcomes	<p>Having passed the subject, the student:</p> <ol style="list-style-type: none"> 1. knows the metal and plastic materials used in spectacle frame industry, knows their physical and chemical qualities; 2. knows the chemical, physical and optical qualities of different ophthalmic lens materials, and can recommend and process them according to client's needs; 3. knows the specifications of surface covering and manufacturing of ophthalmic lenses; 4. is aware about the technologies used for manufacturing spectacle frames and lenses in optics industry. 	
Code	Subject title	Volume
4PK11/PR	Assembling of spectacles placement	12 ECTS
Objective	<ol style="list-style-type: none"> 1. To fix theoretical knowledge acquired from lectures; 2. to develop work methods and skills acquired during placement; 3. to explain the importance of the sense of commitment and responsibility when working in staff. 	
Learning outcomes	<p>Having passed the placement, the student:</p> <ol style="list-style-type: none"> 1. is able to assemble spectacles with all varieties of frame structure and material accordingly with given parameters and tolerances; 2. knows and follows the safety measures that are effective in optics workshop; 3. follows the principles of energy and environment saving in one's work; 4. understands the importance of accuracy in one's performances and has a clear perception about assembling spectacles in optics workshop. 	

Module title: Vision examination	Volume: 59 ECTS Code: 4NU
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Objectives	<ol style="list-style-type: none"> 1. To provide basic knowledge about the ametropies of human eye, about the cognitive-psychological aspects of vision, and about binocular vision; 2. to provide thorough knowledge about the different methods of examining vision, about the possibilities of correcting vision and using them in placement; 3. to prepare the student for practical vision correction in study and work environment. 	
Learning outcomes	<p>Having passed the module, the student:</p> <ol style="list-style-type: none"> 1. interprets the client's visual needs and can find suitable methods for controlling and correcting it; 2. differentiates anomalous vision from normal, identifies different details and possible special cases; 3. solves independently the theoretical and practical problems connected with vision; 4. understands the differences of defining objective and subjective visual acuity and their importance in spectacle correction; 5. knows the different forms of accommodation, convergence and refraction errors, and understands their impact on vision and generating image on retina; 6. is able to evaluate the influence of accommodation in the examination of vision and can correct near vision; 7. understands the mechanisms and possible anomalies of binocular and stereoscopic vision; 8. is able to evaluate human binocular vision and possesses the theoretical and practical aspects of measuring the dispositions of eyes. 	
Module assessment: Subject-based assessment of the module.		
Subjects		
Code	Subject title	Volume
4NU11/AL	Basics of vision examination	3 ECTS
Objective	To provide basic knowledge about vision examination, anamnesis and objective findings.	
Learning outcomes	<p>Having passed the subject, the student:</p> <ol style="list-style-type: none"> 1. on the basis of primary objective findings, knows the most well-known refraction errors; 2. acquires the basic knowledge about the primary necessary instruments for eye and vision examination and knows about their maintenance; 3. acquires knowledge about the stages of checking the vision. 	
Code	Subject title	Volume
4NU11/OB	Objective vision examination and retinoscopy	4 ECTS

Objective	1. To provide detailed knowledge and skills for examining vision with objective methods.	
Learning outcomes	Having passed the subject, the student: 1. makes a difference between subjective and objective vision examination; 2. uses skilfully any machinery in eye cabinet; 3. is able to evaluate the results of objective methods of measuring eye parameters.	
Code	Subject title	Volume
4NU11/SU	Subjective vision examination	8 ECTS
Objective	1. To provide detailed knowledge about the essence of visual acuity; 2. to provide detailed knowledge and skills about the methods of correcting monocular vision; 3. to provide detailed knowledge and skills about the methods of correcting and balancing binocular vision; 4. to provide detailed knowledge about the possible special cases related with visual acuity and the possibilities for solving these cases.	
Learning outcomes	Having passed the subject, the student: 1. knows the different monocular methods of correcting ametropies; 2. makes a difference between subjective and objective vision examination; 3. uses skilfully any machinery in eye cabinet; 4. is able to evaluate the essence of visual acuity; 5. is able to correct and balance refraction errors in binocular conditions; 6. understands the impact of binocular disorders on vision; 7. is able to recognize special cases related with vision and visual acuity for finding the best possible solutions.	
Code	Subject title	Volume
4NU11/LN	Examination of near vision	8 ECTS
Objective	1. To provide detailed knowledge about the essence of near vision; 2. to provide detailed knowledge and skills about the methods of measuring accommodation amplitude; 3. to provide detailed knowledge and skills about the methods of correcting near vision; 4. to provide detailed knowledge about the possible special cases related with near vision and the possibilities of solving them.	
Learning outcomes	Having passed the subject, the student: 1. is able to measure the accommodation amplitude with different methods;	

	<ol style="list-style-type: none"> 2. knows and understands the impact of accommodation disorders on near vision; 3. knows different methods of determining addition; 4. knows and understands the impact of lighting and age on near vision; 5. is able to recognize the special cases related with near vision and visual acuity for finding best possible solutions. 	
Code	Subject title	Volume
4NN09/NT	Visual perception	4 ECTS
Objective	<ol style="list-style-type: none"> 1. To provide detailed knowledge about the physiological process of vision; 2. to provide an understanding about the essence of binocular vision and the peculiarities of visual field; 3. to provide basic knowledge about the disorders related with visual perception and their possible causes; 4. to provide knowledge about what is happening in visual cortex; 5. to explain the importance of visual perception from the point of view of stereopsis. 	
Learning outcomes	<p>Having passed the subject, the student:</p> <ol style="list-style-type: none"> 1. is aware about the eye and neural diseases related with the disorders of visual perception; 2. knows and understands the advancing of visual signal in vision pathway and the electro-chemical processes connected with it; 3. with the help of different models - can visualize the advancing of signals on the different levels of visual cortex; 4. understands the specifics of stereopsis and their connections with stereoscopic vision; 5. is capable of solving different tasks related with the modulation of visual perception. 	
Code	Subject title	Volume
4NU11/NB	Vision development and binocular vision	4 ECTS
Objective	<ol style="list-style-type: none"> 1. To provide knowledge about the structure, physiology and functions of binocular vision; 2. to provide an overview about the development of human vision starting from birth; 3. to explain the sensory and motoric aspects of the development of normal monocular and binocular vision; 4. to describe the sensory and motoric aspects of the development of anomalous vision; 5. to explain the essence of stereoscopic vision. 	
Learning outcomes	<p>Having passed the subject, the student:</p> <ol style="list-style-type: none"> 1. understands the development of normal monocular and binocular vision; 	

	<ol style="list-style-type: none"> 2. can explain the evolving of anomalous vision; 3. can evaluate the existence of monocular, binocular and stereoscopic vision. 	
Code	Subject title	Volume
4NU11/BU	Binocular vision disorders and their research	4 ECTS
Objective	<ol style="list-style-type: none"> 1. To provide knowledge about different binocular vision disorders on sensory as well as motoric levels; 2. to provide a detailed overview about the different research methods aimed to research binocular vision disorders; 3. to introduce different possibilities for curing binocular vision. 	
Learning outcomes	<p>Having passed the subject, the student:</p> <ol style="list-style-type: none"> 1. is able to use the different research methods of vision examination for recognizing disorders in eye cooperation disorders and the reasons of asthenopical complaints; 2. can analyze easier complaints connected with binocular vision and give recommendations by excluding eye diseases; 3. is able to suspect more serious complaints related with disorders in binocular vision that can be connected with more serious eye disease or general disease, and direct the client to ophthalmologist or ortoptist reception. 	
Code	Subject title	Volume
4NU11/TN	Occupational vision	3 ECTS
Objective	<ol style="list-style-type: none"> 1. To provide knowledge about the visual needs related with different work tasks; 2. to provide detailed knowledge about the specifics and characteristics of ophthalmic lenses designed for middle- and close distances; 3. to guide the student to an understanding about the possible vision related problems that arise during the fulfilling of different work tasks. 	
Learning outcomes	<p>Having passed the subject, the student:</p> <ol style="list-style-type: none"> 1. by proceeding from wishes of client in need of vision correction, is able to analyze the possibilities for performing different work tasks with the help of optical correction; 2. knows the features of different ophthalmic lenses meant for middle- and close distances; 3. is able to create a visual and functional general overview about client's needs and real situations on different work positions. 	
Code	Subject title	Volume
4NU11/PR	Vision examination placement	20 ECTS
Objective	<ol style="list-style-type: none"> 1. To fix what has been acquired in lectures and placements; 	

	<ol style="list-style-type: none"> 2. to understand the complexity of optometrist's profession and the connections with other areas related with vision; 3. to learn to work in a work team where many people perform different work tasks but are connected with each others performances on qualitative level.
Learning outcomes	<p>Having passed the subject, the student:</p> <ol style="list-style-type: none"> 1. is able to independently perform visual acuity examination; 2. is able to handle the machinery related with vision examination; 3. is able to analyze the received data and make right decisions according to client's wishes and necessities; 4. has an imagination about the different aspects and stages of one's work and the importance of team.

Module title:		Volume: 28 ECTS
Ophthalmology		Code: 4OF
Objectives	<ol style="list-style-type: none"> 1. To provide consistent knowledge about human eye anatomy and its connections with central nervous system; 2. to provide basic knowledge about eye diseases, their etiology and seriousness; 3. to provide an overview about the ophthalmologic research methods and appliances, and about handling them; 4. to provide a detailed overview about contact lenses, about fitting contact lenses and the risks of wearing them; 5. to provide an overview about assistive instruments for persons with defective vision, and about handling and fitting these instruments. 	
Learning outcomes	<p>Having passed the module, the student:</p> <ol style="list-style-type: none"> 1. knows the structure and functioning of human eye, is aware about the motor pathway of vision and with their possible anomalies; 2. distinguishes the healthy eye from pathologic, identifies different details and possible special cases, and is competent for directing the client to ophthalmologist reception; 3. evaluates the condition of human eye for prescribing and fitting contact lenses, and is competent for instructing the client; 4. is able to foresee and solve the complications of wearing contact lenses, and also the possible dangers for client's health; 5. is able to determine the level of client's defective vision and to fit accordingly visual assistive instruments or to consult for coping in everyday activities;; 6. evaluates complexly the problems of clients with special needs and offers expertise solutions. 	
Module assessment: Subject-based assessment of the module.		
Subjects		

Code	Subject title	Volume
4OF09/SA	Anatomy of the eye	3 ECTS
Objective	1. To provide a detailed overview about the eye's anatomic structure and physiology.	
Learning outcomes	Having passed the subject, the student: 1. knows the anatomy of the eye, also the structure, functioning and purpose of different components.	
Code	Subject title	Volume
4OF11/SH	Eye diseases	5 ECTS
Objective	1. To provide knowledge about the most important eye diseases, their symptoms, dangers and treatment possibilities; 2. to provide knowledge about the influence of eye diseases on visual acuity and visual perception.	
Learning outcomes	Having passed the subject, the student: 1. knows different eye diseases, their etiology and symptoms; 2. is aware about different treatment methods of eye diseases and can critically evaluate the need for directing the patient to ophthalmologist's reception.	
Code	Subject title	Volume
4OF11/SU	Examination methods of eye diseases	4 ECTS
Objective	1. To provide skills for handling different instruments and appliances for ophthalmologic examination; 2. to provide knowledge about the external features of different eye diseases; 3. to provide knowledge about the clinical pictures of eye diseases.	
Learning outcomes	Having passed the subject, the student: 1. can handle ophthalmologic examination apparatuses and appliances; 2. knows and recognizes most widely spread eye diseases; 3. is able to analyze critically the received information.	
Code	Subject title	Volume
4OF11/KL	Contact lenses	5 ECTS
Objective	1. To provide detailed knowledge about the materials, structure and using specifics of contact lenses; 2. to provide detailed knowledge about the dangers and different aspects of wearing and maintaining contact lenses;	

	3. to provide fundamental knowledge about the fitting and post-observation of contact lenses.	
Learning outcomes	Having passed the subject, the student: 1. knows different materials and types of contact lenses originating from their purpose; 2. is able to perform roundness and solidity calculations of contact lenses; 3. is able to evaluate independently the problems arising from wearing contact lenses and take adequate decisions.	
Code	Subject title	Volume
4OF11/KS	Contact lens fitting	4 ECTS
Objective	1. To teach the student the fitting and maintenance of contact lenses; 2. to teach the use of different instruments for fitting and checking the fitting of contact lenses; 3. to provide the skills for teaching the handling of contact lenses.	
Learning outcomes	Having passed the subject, the student: 1. knows and recognizes different contact lenses and can recommend and fit them according to needs; 2. is able to explain and teach the maintenance and handling of contact lenses to the user; 3. is capable to evaluate and analyze independently the problems arising from wearing contact lenses, and adequately to make respective decisions.	
Code	Subject title	Volume
4OF09/NR	Visual rehabilitation	3 ECTS
Objective	1. To provide the student with understanding about defective vision and the possibilities for correcting defective vision; 2. to introduce the different optic and non-optic instruments meant for persons with defective vision; 3. to explain the essence of anisometropia and aniseiconia, and problems related with them.	
Learning outcomes	Having passed the subject, the student: 1. is able to evaluate the level of defective vision; 2. is able to fit and recommend the optic and non-optic instruments for defective vision; 3. can evaluate the work and environmental conditions related with defective vision, and to give recommendations for changing the situation.	
Code	Subject title	Volume
4OF11/SP	Eye diseases placement	4 ECTS

Objective	<ol style="list-style-type: none"> 1. To fix everything that has been taught during theory and placements; 2. to develop the skills of handling apparatuses; 3. to recognize the clinical pictures of different eye diseases.
Learning outcomes	<p>Having passed the placement, the student:</p> <ol style="list-style-type: none"> 1. acquires a certain skill in handling optical apparatuses; 2. recognizes the most widely spread eye diseases; 3. is able to analyze independently the received data and make decisions about the next steps.

Module title: Pre-diploma placement		Volume: 9 ECTS Code: 4DE11/PR
Objectives	To provide the student with an experience of independent work that includes all that is related with the optometrist occupation: customer service, assembling and fitting spectacles, vision examination, the skills to evaluate special cases and to behave accordingly.	
Learning outcomes	<p>Having passed the module, the student:</p> <ol style="list-style-type: none"> 1. knows and recognizes different methods of checking and correcting visual acuity, and proceeds in one's recommendations and selections from client's needs and possibilities; 2. is able to independently interpret the collected information critically and creatively, shows up initiative and responsibility in developmental and team work; 3. is able to analyze in written report as well as in seminar the work process and to give an evaluation about it; 4. connects and values the theory and placement acquired in studies so far with the profession and with all other subjects in study programme. 	
Module assessment: Assessment sheet for student from training base, and the student's report/presentation from placement seminar.		

Module title: Human studies		Volume: 10 ECTS Code: 4IO09
Objective	To provide the student with a readiness to understand the mechanisms regulating the evolving, structure, functioning and activities of organ systems of human organism, basing on the physical processes in it, and also the skill to use elementary Latin terminology about human anatomy, physiology and pathology.	

Learning outcomes	Having passed the module, the student: 1. knows the evolving of human organism; 2. knows the structure and functioning of human organism; 3. knows the mechanisms regulating the structure and functioning of human organism; 4. is able to explain the processes in organism, basing on the physical and biochemical processes taking place in organism; 5. values the acquired knowledge; 6. can associate the acquired knowledge with other subjects; 7. knows the Latin terminology.	
Module assessment: Subject-based assessment of the module.		
Subjects		
Code	Subject title	Volume
4IO09/AF	Human anatomy and physiology; Latin	5 ECTS
Objective	1. To provide the student with knowledge about the evolvment, structure, functioning and mechanisms regulating the activity of organ system in human organism; 2. to provide the student with skills for using elementary Latin terminology about human anatomy, physiology and pathology.	
Learning outcomes	Having passed the subject, the student: 1. understands the evolving of human organism; 2. knows the structure and functioning of human organism; 3. knows the mechanisms regulating the structure and functioning of human organism; 4. understands the processes in organism by relying on knowledge about neurological anatomy; 5. can associate the acquired knowledge with subjects; 6. knows Latin terminology.	
Code	Subject title	Volume
4IO09/OEA	Basics of organism's vital function	5 ECTS
Objective	1. To provide the students with a consistent nature-scientific world picture, proceeding from the profession's point of view; 2. to understand human life functions, its microbiology and processes of heredity and changeability.	
Learning outcomes	Having passed the subject, the student: 1. has basic knowledge about the structure and qualities of a	

	<p>substance;</p> <ol style="list-style-type: none"> 2. understands the connections of organism's micro and macro structure; 3. acquires an overview about the essence of heredity and changeability, and the most widely spread chromosome and genetic diseases that influence human operational capacity; 4. has knowledge about the most widely spread micro-organisms and the diseases caused by them that influence the functions of human organism.
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Module title: Study of diseases		Volume: 10 ECTS Code: 4HO
Objective	<p>To provide an overview about:</p> <ol style="list-style-type: none"> 1. the principles of health policy, general pathoanatomic and pathophysiological changes in organism, the most common internal and neural diseases, by studying the diseases that cause eye pathology; 2. the most used treatment groups, paying main attention on medication used in the diagnostics and treatment of eye diseases; the possibilities of pre-medical aid, and methods of first aid. 	
Learning outcomes	<p>Having passed the module, the student:</p> <ol style="list-style-type: none"> 1. possesses knowledge about the theoretical basics of health and health promotion; 2. possesses knowledge about the health condition of Estonian population; 3. knows the essence of pathology and can use the principles of general pathology; 4. possesses prior knowledge about the etiopathogenesis of most common diseases (atherosclerosis, cardiac ischemia, allergic diseases); 5. knows the most common internal and neural diseases causing eye damage together with their clinical picture, causes, their diagnosing possibilities, and principles of treatment and prevention; 6. has knowledge about the impact of medication on organism and the factors influencing this impact; 7. has knowledge about the diagnostics of eye diseases and the medication used in the treatment; 8. can associate the acquired knowledge with the future profession; 9. possesses general knowledge about the possibilities of pre-medical aid; 10. is able to offer first aid. 	
Module assessment: Subject-based assessment of the module.		
Subjects		
Code	Subject title	Volume
4HO09/PAT	Pathology	2 ECTS

Objective	To provide an overview about general pathoanatomical and pathophysiological changes on different levels of organism that are common to many or all diseases.	
Learning outcomes	Having passed the subject, the student: <ol style="list-style-type: none"> 1. knows the essence of pathology and can use the principles of general pathology; 2. knows alternative changes in case of which the tissue damage is predominant; 3. has an overview about inflammatory processes and immune pathology; 4. knows compensatory, adaptive and regenerative processes, the essence and evolving mechanisms of tumours; 5. possesses prior knowledge about the ethiopathogenesis of most common diseases (atherosclerosis, cardiac ischemia, allergic diseases). 	
Code	Subject title	Volume
4HO09/SN	Internal and neurological diseases	3 ECTS
Objective	<ol style="list-style-type: none"> 1. To provide an overview about the most common internal and neurological diseases (with geriatrics), their causes and spreading, clinical picture, methods of diagnosing and the principles of treatment and prevention; 2. to discuss thoroughly the diseases causing eye pathology. 	
Learning outcomes	<ol style="list-style-type: none"> 1. Has an overview about the main examination methods of the patient; 2. knows the most common internal and neurological diseases with their clinical picture, causes, possibilities for diagnosing, and the principles of treatment and prevention; 3. is able to associate the acquired knowledge with profession. 	
Code	Subject title	Volume
4HO09/FL	Pharmacology	2 ECTS
Objective	<ol style="list-style-type: none"> 1. To provide an overview about the principles of pharmacology, the different treatment forms and methods of administering medication; 2. to provide an overview about the most common treatment groups, the using of medication, the contraindications and side-effects, paying primary attention on the medication used in the diagnostics and treatment of eye diseases. 	
Learning outcomes	Having passed the subject, the student: <ol style="list-style-type: none"> 1. possesses knowledge about the impact of medication on 	

	<p>organism and the factors influencing these impacts;</p> <ol style="list-style-type: none"> 2. knows different forms of treatment, methods of administering medication, and the dependence of medication's impact from the form and method of administering; 3. possesses knowledge about the most common medication groups, their pharmacogenetics, pharmacodynamics, their indications and contraindication for use, and side effects; 4. possesses knowledge about the medication used in the diagnostics and treatment of eye diseases; 5. is able to use pharmacology reference books and hand-books, and internet sources. 	
Code	Subject title	Volume
4HO09/RT	Population health	2 ECTS
Objective	<p>To provide knowledge about:</p> <ol style="list-style-type: none"> 1. the basic principles of population health, and the organization of work related with population health; 2. the theoretical basics of promoting population health and disease prevention. 	
Learning outcomes	<p>Having passed the subject, the student:</p> <ol style="list-style-type: none"> 1. knows the theoretical basics of health and health promotion; 2. possesses knowledge about the health condition of Estonian population; 3. approaches to problems from the point of environmental friendly conception, and knows the basics of globalization; 4. is able to consult clients. 	
Code	Subject title	Volume
4HO09/EA	First aid	1 ECTS
Objective	<p>To teach the possibilities of pre-medical aid.</p>	
Learning outcomes	<ol style="list-style-type: none"> 1. Possesses general knowledge about the possibilities of pre-medical aid; 2. is able to perform first aid methods; 3. is able to analyze one's activities and give recommendations to other first aid providers; 4. is able to organize victim's transportation to the hospital; 5. is able to express one's ideas and recommend one's activities in different crisis situation. 	

Module title: Professional development	Volume: 20 ECTS Code: 4PA
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Objective	To provide an overview about: <ol style="list-style-type: none"> 1. the college's system of studies, study programme, and about the rights and obligations of student; 2. communication disciplines and the importance of ethics in future work; 3. the main groundwork of entrepreneurship and management; 4. the importance of personal professional development in future work; 5. the essence and position of the profession; 6. the need of lifelong learning and self-improvement. 	
Learning outcomes	Having passed the module, the student: <ol style="list-style-type: none"> 1. has an overview about the contents and subject programme of the speciality's study programme; 2. knows, recognizes and applies different learning styles and teaching methods used in college; 3. is capable of planning and managing independent work and career, and to develop one's learning skills; 4. can systematize and generalize what has been studied from study programme's subjects, and to apply theoretical knowledge in placement; 5. is able to critically analyze, discuss and argue one's positions; 6. knows, applies and develops different communication techniques, one's personal study resources and skills, and understands the need of personal motivation in adopting the profession and planning one's career; 7. adopts the knowledge and experiences for instructing other students; 8. values and is able to use team-work principles. 	
Module assessment: Subject-based assessment of the module.		
Subjects		
Code	Subject title	Volume
4PA11/SÕ	Communication studies	3 ECTS
Objective	<ol style="list-style-type: none"> 1. To provide an overview about the system of Estonian higher education, the position of Tallinn Health Care College in the landscape of Estonian higher education, and to introduce study organization in the college, the principles of information search and using library; 2. to provide an overview about the basic principles of communication psychology, the main discussions and connections with other subject fields and future profession; 3. to learn to know the specifics of communication psychology and personality differences on its background. 	
Learning outcomes	<ol style="list-style-type: none"> 1. Has an overview about the system of Estonian higher education, the position of Tallinn Health Care College in the landscape of Estonian higher education; 2. knows the organisation of studies in Tallinn Health Care College; 	

	3. possesses knowledge about the basic principles of communication psychology and its main discussions; 4. knows the correct communication models; 5. possesses techniques in managing in communication with different client types; 6. is able to apply team-work principles, orients in contemporary speciality literature and databases, and is capable of planning and managing an independent work based on speciality subject.	
Code	Subject title	Volume
4PA11/KT	Customer service	4 ECTS
Objective	The objective of the course is to provide knowledge about the basics of modern customer service, and a readiness for understanding/satisfying client's needs during the service process.	
Learning outcomes	Having passed the subject, the student: 1. knows the basic principles of modern customer service and has an overview about the key issues; 2. understands the need of developing the personal qualities of customer service staff; 3. knows the contents of customer service process and participates in it in correct way; 4. knows the types of services/products and can plan the sales conversation; 5. possesses techniques for managing the communication with different client types; 6. understands the importance of profession-ethics.	
Code	Subject title	Volume
4PA11/PR	Introductory placement in optics firm	3 ECTS
Objective	To introduce to the student the work organisation in optics firm and the tasks for the staff.	
Learning outcomes	Having passed the placement, the student: 1. understands the everyday life in optics store; 2. has an imagination about the application possibilities of the profession; 3. starts to understand the principles of team work.	
Code	Subject title	Volume
4PA11/JÖ	Management studies	2 ECTS
Objective	1. With the studies it is pursued that the students will acquire knowledge about the conceptual entirety of management, and	

	are able to value co-workers and oneself in the organisation.	
Learning outcomes	<ol style="list-style-type: none"> 1. Knows the specifics and main directions of management; 2. has an overview about the contents of manager's functions; 3. orients in a changing environment, knows and can use the different management styles according to situation; 4. knows the basics of team-work and coping with changes. 	
Code	Subject title	Volume
4PA11/EV	Business economics	4 ECTS
Objective	<ol style="list-style-type: none"> 1. To provide an overview about the basics of economic science and its connections with entrepreneurship; 2. to introduce the basic principles related with entrepreneurship and the problems related with business management. 	
Learning outcomes	<p>Having passed the subject, the student:</p> <ol style="list-style-type: none"> 1. knows the basic principles of economy and the ethic aspects of subjects participating in economic activity; 2. has acquired the basic principles of entrepreneurship; 3. can analyze business situations and offer personal solutions; 4. is able to participate in discussions related with business and to draw up a simplified business plan; 5. has developed one's team work skills. 	
Code	Subject title	Volume
4PA11/TT	Occupational health care	2 ECTS
Objective	<ol style="list-style-type: none"> 1. Forming knowledge about the principles of occupational health, occupational safety and health care, its organization in Estonia; about safety factors resulting from work environment and work mode; about the evaluation and prevention of health risks, and about guaranteeing the work capability of employees; 2. to work out safe work methods for preventing work related diseases and necessary counselling skills; 3. to provide knowledge about the basics of ergonomics and its application areas, and the possibilities of designing work space. 	
Learning outcomes	<p>Having passed the subject, the student:</p> <ol style="list-style-type: none"> 1. possesses knowledge about the danger factors in work environment, and about the basic principles and basics of ergonomics; 2. if necessary, finds independently the legal acts of occupational health care; 3. is able to use the acquired information in mapping the danger factors in work environment; 	

	<ul style="list-style-type: none"> 4. is able to participate in risk evaluation (team); 5. selects suitable methods for preventing harmful effects of danger factors from work environment; 6. is able to explain the possibilities of preventing harmful effects of danger factors from work environment to clients within the frames of his/her speciality. 	
Code	Subject title	Volume
4PA11/NE	Vision ergonomics	2 ECTS
Objective	<p>To provide knowledge about:</p> <ul style="list-style-type: none"> 1. the ergonomics of occupational health care, occupational safety and vision ergonomics; 2. the evaluation and controlling health risks in work environment; 3. the ergonomic inspection of work and working area; 4. the use of vision ergonomic principles in optimizing activities and work environment; 5. the possibilities of designing the work area; 6. the need for cooperation with designers of work areas and lighting specialists, representatives of firms measuring work environment, and with employers; 7. counselling of clients with vision problems. 	
Learning outcomes	<p>Having passed the subject, the student:</p> <ul style="list-style-type: none"> 1. is able to map danger factors in work environment; 2. knows the reasons and prevention of mental and physical overload; 3. is able to evaluate and value the need for evaluating, developing and restoring the ability of coping and work; 4. is able to design work areas/working areas for optometry specialists; 5. is able to use physics knowledge in guaranteeing occupational safety and vision conditions; 6. is able to evaluate the lighting conditions of work areas, to offer recommendations for selecting lighting instruments; 7. is able to counsel clients in the selection of instruments for vision correction that would conform with the possibilities at work place and also with the nature of work tasks. 	

Module title: Research	Volume: 18 ECTS Code: 4UT
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Objective	To explain the basics of evidence-based research by using different information sources (incl. speciality databases), to plan and carry out applied research and development works, and to value the ethical questions of research.	
Learning outcomes	Having passed the module, the student: <ol style="list-style-type: none"> 1. possesses general knowledge about information society, IT instruments, data studies and databases; 2. is able to use e-learning possibilities in web-based learning environment IVA; 3. knows, recognizes and can use Estonian and English terminology; 4. knows and recognizes the different starting points, models and methods of scientific papers and researches, and knows how to apply them; 5. is able to formulate the objective, hypothesis and action plan of the research, proceeding from the evidence based data, has an understanding and skills for conducting it; 6. is able to compose and present written paper, and to defend it in discussions; 7. uses the different starting points, models and methods of scientific works and researches; 8. has Estonian language skills on level C1; 9. has skills in at least one foreign language on B1 level. 	
Module assessment: Subject-based assessment of the module.		
Subjects		
Code	Subject title	Volume
4UT11/EK	Estonian	2 ECTS
Objective	To provide skills for explaining orally and in written form the problems related in optometrist speciality, and to participate in speciality discussions.	
Learning outcomes	Having passed the subject, the student: <ol style="list-style-type: none"> 1. has Estonian language skills at least on C1 level; 2. knows scientific language and can report, quote and refer scientific texts. 	
Code	Subject title	Volume
4UT11/K	English	4 ECTS
Objective	Adopting the professional English terminology.	
Learning outcomes	Having passed the subject, the student: <ol style="list-style-type: none"> 1. knows the English terminology related with human body and functions, can use it during determination of anamnesis and 	

	asking questions during offering first aid; 2. knows and can use the English equivalents of most common diseases and symptoms; 3. knows English optometry terminology, and understands the scientific and research texts in English; 4. is able to participate in conversations in English on speciality topics; 5. is able to present speciality materials in English.	
Code	Subject title	Volume
4UT11/TA	Basics of research	13 ECTS
Objective	1. To provide an overview about the methodological starting points of scientific works and methods of research; 2. to introduce the possibilities of information technology and to teach the skills for processing practical information; 3. to teach the skills of analyzing and associating through carrying out independent research project.	
Learning outcomes	1. Is able to plan and carry out scientific research work, and analyze the results; 2. is able to analyze and evaluate the published scientific researches; 3. is able to effectively use office software; 4. is able to use different databases and IT possibilities in composing written works; 5. possesses general knowledge about information society, IT appliances, information science and databases; 6. is able to use e-learning possibilities in web-based IVA environment; 7. is able to compose and present written work.	

FINAL THESIS (if Final exam not taken)

Module title: Final thesis		Volume: 4 ECTS Code: 4LT11
Objectives	1. To integrate the acquired theory and placement experiences; 2. to compose an independent research paper; 3. defending final thesis with a positive grade.	
Learning outcomes	Having passed the module, the student: 1. can connect theory with placement; 2. has acquired all learning outcomes stated in study programme; 3. is capable to write a required final thesis and to defend its results orally; 4. is ready to work independently as an optometrist.	
Assessment: Individuate assessment.		

FINAL EXAM (if Final thesis not taken)

Module title: Final exam		Volume: 4 ECTS Code: 4LE11
Objectives	<ol style="list-style-type: none"> 1. To integrate the acquired theory and placement experiences; 2. to perform a written final exam with a positive grade. 	
Learning outcomes	Having passed the module, the student: <ol style="list-style-type: none"> 1. can connect theory with placement; 2. has acquired all learning outcomes stated in study programme; 3. is ready to work independently as an optometrist. 	
Assessment: Individuate assessment.		

ELECTIVE SUBJECTS

Module title:		Volume: 4 ECTS Code:
Objective	<ol style="list-style-type: none"> 1. To provide the student with an opportunity for deepened developing of knowledge and skills in optometry, and for realizing one's interests in other health care areas through freely selected subjects. 	
Learning outcomes	Having passed the module, the student: <ol style="list-style-type: none"> 1. possesses deepened knowledge in the selected elective subjects; 2. has acquired complementary knowledge, skills and value judgements in optometry or in its close area; 3. can associate the acquired knowledge with one's profession. 	
Module assessment: Subject-based assessment of the module.		
Subjects		
Code	Subject title	Volume
VAVKOP11	Russian for optometrists	2 ECTS
VASTH10	Eye health care	2 ECTS