Educational institution:	TALLINN HEALTH CARE COLLEGE
Code of educational institution:	70003980
Title of study programme:	OPTOMETRIST
(in Estonian and English)	*OPTOMETRIST*
Level of study programme:	Professional higher education
Academic field:	Health and well-being
Orientation of study:	Health
Study programme group:	Health care
Accreditation data:	Directive of the Minister of Education and Science No 64 from Feb. 1st, 2005: to accredit until Feb. 1st, 2012.
Volume in European Credit Transfer and Accumulation System (ECTS):	210
Nominal period of studies:	3 years 6 months

Admission requirements: secondary education or equivalent foreign qualification.

The objective of study programme is to train specialists i.e. optometrists with applied higher education who evaluate and correct visual acuity, and whose knowledge and skills enable them to work in optics shops, in clinics dealing with vision correction and treatment, in work health care enterprises, in research institutions dealing with vision ergonomics and visual perception, and in wholesale firms of optics products.

Brief description of study programme and teaching:
Volume of speciality subjects: 75 ECTS
Volume of basic subjects: 60 ECTS
Volume of practical training: 55 ECTS
Volume of final exam/final work: 10 ECTS
Volume of elective subjects in study programme: 10 ECTS
Language of studies: Estonian language
English language skills are necessary for achieving learning outcomes
Volume of contact studies: not more than 50% from total volume of theory studies in study programme
Theoretic and practical subjects related with optometry, nature-scientific subjects, society sciences and basic subjects will be studied.

Graduation requirements:
passing the study programme in full volume and final exam/final work passed with positive grade.

Documents issued upon graduation:
an applied higher education diploma with an academic statement and *Diploma Supplement* in English.

Study programme code in the Estonian Education Information System (EHIS) Registry of Curricula:

1	4	7	9

Module/subject passports

Module code	4OP09
Module title	**Optics and lenses**
Module volume	20 ECTS / 520 hours
Contact learning (incl e-learning)	260 hours
Independent work	Not less than 260 hours
Year of studies	I and II year
Integrated modules/subjects	Vision examination, Assembling of spectacles / Optics, Theory of ophthalmic lenses, Introduction to optometry
Module objective	1. To provide basic knowledge about the essence and spreading of light in the environment surrounding us, and in optic environments with different nature; 2. to provide an overview about the refraction errors of human eye, their peculiarities, and the possibilities and methods of correction; 3. to provide detailed knowledge about the structure, the function mechanisms and application possibilities of different ophthalmic lenses.
Learning outcomes	Having passed the module, the student: 1. has an overview about the physical essence and features of light, its spreading in different environments; can verbally and mathematically describe the possible situations related with light and optics; 2. identifies eye's amethropies and knows the scientific and practical aspects related with their corrections; 3. knows and recognizes different optical lenses, lense systems and their construction principles, can analyze and describe them graphically and mathematically; 4. can handle simpler optical measuring instruments and machines for assessing the characteristics of ophthalmic lenses; 5. assesses professionally and critically the impact of different ophthalmic lense constructions on human vision and can prevent and/or correct possible problems; 6. assesses different tasks and problems by proceeding from one's knowledge and experiences, solves them independently by analyzing different aspects of the situation, considering client's needs and well-being.
Contents and method of independent work	During independent work the student solves different exercises and tests in e-learning environment, accomplishes calculations and composes a written protocol basing on the results of practical measurings in study environment.
Evaluation	Exam

Subject code	4OPT09
Subject title	**Optics**
Subject volume	10 ECTS / 260 hours
Contact learning (incl e-learning)	130 hours
Independent work	Not less than 130 hours
Year of studies	I year
Integrated modules/subjects	Optics / Theory of ophthalmic lenses, Introduction to optometry
Subject objective	To provide basic knowledge about the essence and spreading of light in our surrounding environment and in optic environments with different nature.

Learning outcomes	Having passed the subject, the student: 1. has an overview about the physical essence and features of light, its spreading in different environments; can verbally and mathematically describe the possible situations related with light and optics; 2. knows and recognizes different optical lenses, lense systems and their construction principles, can analyze and describe them graphically and mathematically; 3. can handle simpler optical measuring instruments and machines for assessing the characteristics of ophthalmic lenses.
Contents and method of independent work	Working with conspectus, solving exercises, composing laboratory course protocols.
Evaluation	Exam

Subject code	4SO09
Subject title	**Introduction to optometry**
Subject volume	4 ECTS / 104 hours
Contact learning (incl e-learning)	52 hours
Independent work	Not less than 52 hours
Year of studies	I year
Integrated modules/subjects	Optics, Vision examination / Theory of ophthalmic lenses
Subject objective	1. To provide basic knowledge about eye amethropies and the possibilities for correcting them; 2. to provide an overview about the essence of vision; 3. to explain the essence and the relation of accommodation with eye's close and far off point.
Learning outcomes	Having passed the subject, the student: 1. can estimate the size of amethropy and possible ways of correction; 2. can describe the range of human vision and accommodation ability on the basis of given parameters; 3. has a perception about vision physiology.
Contents and method of independent work	Working with conspectus, solving exercises.
Evaluation	Graded prelim

Subject code	4OLT09
Subject title	**Theory of ophthalmic lenses**
Subject volume	6 ECTS / 156 hours
Contact learning (incl e-learning)	78 hours
Independent work	Not less than 78 hours
Year of studies	II year
Integrated modules/subjects	Optics and lenses, Vision examination, Assembling of spectacles / Optics, Introduction to optometry
Subject objective	1. To provide detailed knowledge about the different types and constructions of lenses; 2. to provide an overview about the surface coverings of lenses and about the methods of improving lense quality.

Learning outcomes	Having passed the subject, the student: 1. knows the vocabulary and terminology used in the speciality and knows how to use it; 2. knows the optic construction of lenses; 3. knows the different using methods of lenses; 4. knows the methods of post-processing the quality of lenses, aiming to enhance the optical qualities of lenses; 5. can recommend the best appliances for correcting vision by originating from client's necessities.
Contents and method of independent work	Working with conspectus, solving exercises.
Evaluation	Exam

Module code	4PK09
Module title	**Assembling of spectacles**
Module volume	30 ECTS / 780 hours
Contact learning (incl e-learning)	182 hours
Independent work	Not less than 182 hours
Practical training	16 ECTS / 416 hours
Year of studies	II year
Integrated modules/subjects	Optics and lenses, Vision examination
Module objective	1. To provide the student with in-depth overview about the materials with their features used for spectacle frames, lenses and contact lenses in optics industry; 2. to provide an overview about different methods of processing spectacle lenses, constructing and repairing spectacles; 3. to provide basic knowledge about matching different spectacle lense materials and types with spectacle frames of different construction and material, and about possible bottlenecks.
Learning outcomes	Having passed the module, the student: 1. recognizes and knows the features of the materials of different spectacle frames and lenses, and can adequally evaluate the suitability of components with given case and client's needs; 2. knows the working principles and safety measures of equipment necessary for constructing spectacles, can handle different grinders of spectacle lenses by following instructions; 3. can handle different manual tools and electric appliances for constructing spectacles, and knows the necessary safety and maintenance measures; 4. knows and can apply the methods and ways of adjusting different spectacle frames, can evaluate and analyze the client's need for vision in a way that guarantees the best possible solution when selecting spectacle frame and lenses; 5. evaluates various tasks and emerging problems by proceeding from one's knowledge and experiences, and solves them independently by analyzing the different aspects of the situation, proceeding from the client's needs and well-being.
Contents and method of independent work	Material studies in e-learning, reading literature, composing a report, constructing independently spectacles in study-environment.

Evaluation	Exam

Module code	4NUT09
Module title	**Vision examination and visual perception**
Module volume	40 ECTS / 1040 hours
Contact learning (incl e-learning)	442 hours
Independent work	Not less than 208 hours
Practical training	15 ECTS / 390 hours
Year of studies	II and III year
Integrated modules/subjects	Optics and lenses, Ophthalmology, Human studies / Vision examination, Binocular vision, Visual perception
Module objective	1. To provide basic knowledge about the amethropies of human eye, the cognitive-psychological aspects of vision, and about binocular vision; 2. to provide in-depth knowledge about the different methods of examining vision, about the possibilities and practical appliance of correcting vision; 3. to prepare the student for practical vision examination in study- and work environment.
Learning outcomes	Having passed the module, the student: 1. interprets the needs of the examined vision and can find suitable methods for checking and correcting it; 2. differentiates anomalous vision from normal and identifies different details and possible special cases; 3. solves independently theoretical and practical problems related with vision; 4. understands the differences in defining objective and subjective visual acuity and their importance in correcting spectacles; 5. knows the different forms of accommodation, convergence and refraction errors, and understands their impact on vision and the evolving of image on retina; 6. can evaluate accommodation impact in vision examination and to correcting close range vision; 7. understands the mechanism of binocular and stereoscopic vision and possible anomalies; 8. can assess the person's binocular vision, possesses the measuring of the malposition of eyes, and the theoretic and practical aspects.
Contents and method of independent work	Reading speciality literature, analyzing data acquired from tests made during contact studies, solving various theoretical exercises.
Evaluation	Exam

Subject code	4NU09
Subject title	**Vision examination**
Subject volume	32 ECTS / 832 hours
Contact learning (incl e-learning)	221 hours
Independent work	Not less than 221 hours
Practical training	390 hours
Year of studies	II and III year
Integrated modules/subjects	Optics and lenses, Vision examination and Visual perception, Assembling of spectacles / Optics, Introduction to optometry

Subject objective	1. To provide detailed knowledge about the essence of visual acuity; 2. to provide detailed knowledge and skills about the methods of correcting vision; 3. to provide detailed knowledge about the possible special cases related with visual acuity and the possibility of solving them.
Learning outcomes	Having passed the subject, the student: 1. knows different methods of correcting amethropies; 2. makes a difference between subjective and objective vision examination; 3. uses skilfully any machine in optics office; 4. can solve special cases related with vision and visual acuity for finding the best solutions.
Contents and method of independent work	Working with conspectus and speciality literature, composing a report, passing practice and composing practice report.
Evaluation	Exam

Subject code	4BN09
Subject title	**Binocular vision**
Subject volume	4 ECTS / 104 hours
Contact learning (incl e-learning)	52 hours
Independent work	Not less than 52 hours
Year of studies	III year
Integrated modules/subjects	Optics and lenses, Vision examination and Visual perception, Assembling of spectacles / Optics, Introduction to optometry
Subject objective	1. To provide detailed knowledge about the essence and disorders in binocular vision; 2. to provide an overview about ortoptic instruments and methods for correcting vision.
Learning outcomes	Having passed the subject, the student: 1. knows the essence of binocular and stereoscopic vision; 2. can discover different disorders in binocular vision; 3. knows and can apply different methodology for improving binocular vision; 4. can adequally value the importance of binocular vision.
Contents and method of independent work	Working with conspectus, reading speciality literature.
Evaluation	Graded prelim

Subject code	4NT09
Subject title	**Visual perception**
Subject volume	4 ECTS / 104 hours
Contact learning (incl e-learning)	52 hours
Independent work	Not less than 52 hours
Year of studies	III year
Integrated modules/subjects	Optics and lenses, Vision examination and Visual perception, Assembling of spectacles, Ophthalmology, Human studies
Subject objective	1. To provide detailed knowledge about the motor pathways of vision and the functions of cerebral cortex in vision; 2. to provide basic knowledge about the disorders related with visual perception and their possible causes.

Learning outcomes	Having passed the subject, the student: 1. can adequally assess the condition of visual perception of the client; 2. knows the peculiarities related with visual perception and can compare them; 3. is aware about eye and neurologic diseases related with visual perception disorders.
Contents and method of independent work	Working with conspectus, reading speciality literature.
Evaluation	Graded prelim

Module code	4OF09
Module title	**Ophthalmology**
Module volume	25 ECTS / 650 hours
Contact learning (incl e-learning)	247 hours
Independent work	Not less than 247 hours
Practical training	156 hours
Year of studies	I and III year
Integrated modules/subjects	Vision examination and Visual perception, Optics and lenses / Eye anatomy, Eye diseases, Contact lenses, Rehabilitation of vision
Module objective	1. To provide in-depth knowledge about human eye anatomy and the connections with central nervous system; 2. to provide basic knowledge about eye diseases, their aetiology and seriousness; 3. to provide an overview about ophthalmologic research methods and equipment, their using; 4. to provide a detailed overview about contact lenses, about matching contact lenses and the risks of wearing them; 5. to provide an overview about the assisting devices for people with defective vision, the handling and matching these.
Learning outcomes	Having passed the module, the student: 1. knows the structure and function of human eye, is familiar with the motor pathways of vision and their possible anomalies; 2. differentiates a healthy eye from pathological, identifies different details and possible special cases, and is competent for guiding client to ophthalmologist reception; 3. assesses the condition of human eye for prescribing and customizing contact lenses, and is competent for consulting the client; 4. can foresee and solve complications and possible hazards for client's health arising from wearing contact lenses; 5. can identify the level of client's defective vision and accordingly to customize the vision assisting instruments, or to consult for every day managing; 6. assesses complexly the problems of clients with special needs and offers them professional solutions.
Contents and method of independent work	Reading speciality literature and periodicals, composing a report about eye pathology or research method, solving different calculation exercises for determining if contact lenses are flawless.
Evaluation	Exam

Subject code	4SIA09

Subject title	**Eye anatomy**
Subject volume	3 ECTS / 78 hours
Contact learning (incl e-learning)	39 hours
Independent work	Not less than 39 hours
Year of studies	I year
Integrated modules/subjects	Introduction to optometry, Human studies
Subject objective	To provide a detailed overview about the eye's anatomic structure and physiology.
Learning outcomes	Having passed the subject the student knows eye anatomy, the structure, function and purpose of different components.
Contents and method of independent work	Working with conspectus, reading speciality literature.
Evaluation	Exam

Subject code	4SH09
Subject title	**Eye diseases / Examination methods of eye diseases**
Subject volume	13 ECTS / 338 hours
Contact learning (incl e-learning)	91 hours
Independent work	Not less than 91 hours
Practical training	156 hours
Year of studies	III year
Integrated modules/subjects	Eye anatomy, Human studies
Subject objective	1. To provide knowledge about most important eye diseases, their symptoms, hazards and treatment possibilities; 2. to provide a detailed overview about the possibilities and apparatuses for eye examination.
Learning outcomes	Having passed the subject, the student: 1. knows the most widely spread eye diseases and can independently make decisions for directing the client to ophthalmologist reception; 2. can handle the machinery for eye examination.
Contents and method of independent work	Working with conspectus, reading speciality literature, composing practice report, composing a report related with ophthalmology.
Evaluation	Exam

Subject code	4KL09
Subject title	**Contact lenses**
Subject volume	6 ECTS / 156 hours
Contact learning (incl e-learning)	78 hours
Independent work	Not less than 78 hours
Year of studies	III year
Integrated modules/subjects	Optics and lenses, Vision examination and visual perception, Ophthalmology, Human studies
Subject objective	1. To provide detailed knowledge about the materials, structure and using peculiarities of contact lenses; 2. To provide detailed knowledge about the hazards and different aspects of

	wearing contact lenses; 3. To provide in-depth knowledge about customizing and postobservation of contact lenses.
Learning outcomes	Having passed the subject, the student: 1. knows different materials and types of contact lenses accordingly with every case; 2. can perform the roundness and solidity calculations of contact lenses; 3. can customize contact lenses and to instruct the wearer about the maintenance and handling of contact lenses; 4. can independently assess the problems arising from wearing contact lenses and to take adequate decisions.
Contents and method of independent work	Working with conspectus, reading speciality literature, composing report.
Evaluation	Exam

Subject code	4NR09
Subject title	**Rehabilitation of vision**
Subject volume	3 ECTS / 78 hours
Contact learning (incl e-learning)	39 hours
Independent work	Not less than 39 hours
Year of studies	III year
Integrated modules/subjects	Optics and lenses, Vision examination and Visual perception, Ophthalmology, Human studies
Subject objective	1. To provide detailed knowledge about defective vision and the possibilities for correcting it; 2. to provide an overview about the non-optic assisting instruments for defective vision and their applying possibilities.
Learning outcomes	Having passed the subject, the student: 1. can assess the level of defective vision; 2. can customize and recommend the optic and non-optic assisting instruments for defective vision; 3. can assess the working and environment conditions related with defective vision and to give recommendations to improve the situation.
Contents and method of independent work	Working with conspectus, reading speciality literature, composing a report.
Evaluation	Graded prelim

Module code	4IO09
Module title	**Human studies**
Module volume	10 ECTS
Contact learning (incl e-learning)	130 hours
Independent work	Not less than 130 hours
Practical training	
Year of studies	I year
Integrated modules/subjects	Anatomy and physiology, Microbiology, A- and antiseptics, Biochemistry, Genetics
Module objective	1. To provide the student with the readiness for understanding the development, structure and function of human organism and mechanisms

	regulating the activity of organ systems, basing on the physical processes happening inside it; 2. to provide skills for using elementary Latin terminology related with human anatomy, physiology and pathology.
Learning outcomes	Having passed the module, the student: 1. knows the development of human organism; 2. knows the structure and function of human organism; 3. knows the mechanisms regulating the structure and function of human organism; 4. can explain the processes in organism, basing on physical processes in organism; 5. values the acquired knowledge; 6. can connect the acquired knowledge with other subjects; 7. knows Latin terminology.
Contents and method of independent work	By using relevant Latin terminology: to finalize an exercise book that contains conspectuses about the basic principles of topics from all seminars and group works, conspectuses and reports composed on topics of independent works, tables, schemes, figures and concept cards.
Evaluation	Graded prelim

Module code	4HO09
Module title	**Pathology**
Module volume	10 ECTS / 260 hours
Contact learning (incl e-learning)	130 hours
Independent work	Not less than 130 hours
Practical training	
Year of studies	I and II year
Integrated modules/subjects	Public health, Pathology, Internal and neurological diseases, Pharmacology, First aid
Module objective	To provide an overview about: 1. the principles of health care policy, general pathoanatomic and pathophysiologic changes in organism, the most frequently occurring internal and neurologic diseases, teaching diseases that cause eye pathology; 2. the most frequently used treatment groups, paying main attention to medications used in the diagnostics and treatment of eye diseases; 3. the possibilities of pre-medic aid and first aid methods.
Learning outcomes	Having passed the module, the student: 1. has knowledge about the theoretic principles of health and health promotion; 2. has knowledge about the health condition of Estonian population; 3. knows the essence of pathology and can use the principles of general pathology; 4. has preliminary knowledge about the etiopathogenesis of most widely spread diseases (arteriosclerosis, ischemia disease, allergic diseases); 5. knows internal and neurologic diseases occurring most frequently and causing eye damage with their clinical picture, arising causes, diagnosing possibilities and principles of treatment and prevention; 6. has knowledge about medication effect on organism and the factors influencing the effects; 7. has knowledge about the medications used in the diagnostics and treatment of eye diseases;

	8. can associate the acquired knowledge with one's future profession; 9. has general knowledge about the possibilities of pre-medical aid; 10. can perform first aid technique.
Contents and method of independent work	Working with related literature, report.
Evaluation	Exam

Module code	4PA09
Module title	**Professional development**
Module volume (ECTS hours)	25 ECTS / 650 hours
Contact learning (incl e-learning)	286 hours
Independent work	Not less than 286 hours
Practical training	78 hours
Year of studies	I, II, III, IV year
Integrated modules/subjects	Introduction to studies, Psychology, Ethics, Entrepreneurship, Management studies, Labour health care, Ergonomics of vision, Philosophy, Pedagogics, Introductory practice
Module objective	To provide an overview about: 1. the education system in the college and the study programme, and about the rights and obligations of student; 2. communication disciplines and the importance of ethics in future work; 3. the basics of entrepreneurship and managing; 4. the importance of personal professional development in future work; 5. the essence and position of speciality work; 6. the necessity of lifelong learning and self-supplementing.
Learning outcomes	Having passed the module, the student: 1. has an overview about the contents and subject programme of study programme, study regulations and can use study-information system; 2. knows, recognizes and uses different learning styles and teaching methods used in college; 3. can plan and direct independent work and career, and to develop learning skills; 4. can systematize and generalize knowledge from subjects of study programme, and to apply theoretic knowledge in practice; 5. can critically analyze, discuss and argue one's standing points; 6. knows, applies and develops different communication techniques, one's personal learning resources and abilities, and understands the necessity of personal motivation in acquiring the speciality and planning one's career; 7. acquires knowledge and experience for instructing fellow students, values and can use team work principles.
Contents and method of independent work	Searching, reading, analyzing, referring, making a summary and presentation about speciality information. Preparing for seminars and graded prelims.
Evaluation	Graded prelim

Module code	4UAM09
Module title	**Research and development work methodology**
Module volume	15 ECTS / 390 hours

Contact learning (incl e-learning)	195 hours
Independent work	Not less than 195 hours
Year of studies	I, II, III year
Integrated modules/subjects	Research work methodology, Infotechnology, language studies, term paper
Subject objective	To explain the basics of evidence based research work by using different information sources (incl speciality databases), to plan and conduct applied scientific researches and development works, and to value the ethic issues in research work.
Learning outcomes	Having passed the course, the student: 1. has general knowledge about information society, infotechnology instruments, information studies and databases; 2. can use e-learning possibilities in the web-based study-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 works and researches, and can apply them; 5. can formulate the objective, hypothesis and activity plan for work by proceeding from evidence based information, has an understanding and skills for conducting it; 6. can compose and present written work and defend it in discussions; 7. uses different starting points, models and methods of scientific works and researches; 8. has skills in Estonian language at least on C 1 level; 9. has skills in at least one foreign language no less than on B 1 level.
Contents and method of independent work	Working with literature; composing presentation; communicating in the forum of study environment; learning from and teaching each other, project work (essay, article analysis, short research work and report), composing and conducting information search strategy, evaluation of search results, giving feedback about results. Composing and presenting term paper.
Evaluation	Graded prelim

Module code	4DP09
Module title	**Pre-diploma practicing**
Module volume	15 ECTS / 390 hours
Practical training	390 hours
Year of studies	IV year
Integrated modules/subjects	All previously passed modules in study programme.
Module objective	To provide the student with experience in independent work that covers all areas in optometrist's work field – customer service, producing and customizing spectacles, vision examination and skills for assessing special cases and to behave accordingly.
Learning outcomes	Having passed the module, the student: 1. knows and recognizes different methods of correcting vision, and proceeds in one's recommendations from the necessities and possibilities of client; 2. can independently interprete the collected information critically and creatively, and shows initiative and responsibility in development and team work; 3. can analyze the work process and evaluate it in written report and in seminar;

	4. associates and values the acquired theories and practice with profession and with other subjects in study programme, can express it in study map.
Contents and method of independent work	Working with speciality literature and normative documents from working place, preparing practice map.
Evaluation	Prelim

Module code	
Module title	**Elective and optional subjects**
Module volume	10 ECTS / 260 hours
Contact learning (incl e-learning)	130 hours
Independent work	Not less than 130 hours
Year of studies	From I to IV year
Integrated modules/subjects	-
Module objective	To provide the student a possibility for developing one's knowledge and skills in optometry and for realizing one's interests in other health care areas through freely elected subjects.
Learning outcomes	Having passed the module, the student: 1. has deepened knowledge in the elected subjects; 2. has acquired additional knowledge, skills and value judgements in optometry or in an area close to it; 3. can connect the acquired knowledge with one's speciality.
Contents and method of independent work	Accordingly with the assigned tasks.
Evaluation	Prelim

Module code	4LET09
Module title	**Final work / Final exam**
Module volume	10 ECTS (260 hours)
Independent work	260 hours
Year of studies	IV year
Integrated modules/subjects	All passed modules.
Module objective	To integrate the acquired theory and practicing experiences. Final work or final exam passed with a positive grade.
Learning outcomes	Having passed the module, the student: 1. can associate theory with practice; 2. has acquired all the learning outcomes of the study programme; 3. can write a final work as required and to defend its results in oral defending; 4. is ready to work independently as an optometrist.
Contents and method of independent work	Repeating for final exam or writing final work in cooperation with instructor.
Evaluation	Exam