Programme syllabus for

Study Programme in Optometry, 180 credits

Optikerprogrammet, 180 hp

Basic programme information

Programme code	1OP19
Name of the programme	Study Programme in Optometry
Number of credits	180.0 credits (180.0 ECTS credits)
Starting date	The syllabus applies to students who commence their studies in or after autumn 2019. Approved revisions of the syllabus are described under the heading Transitional Provisions.
Decision date	2018-10-18
Decided by	Board of Higher Education
Last revision	2021-11-10
Revised by	Committee for Higher Education
Reference number	3-4797/2021
Specific eligibility requirements	Mathematics 2a or 2b or 2c, Natural Sciences 2.
Main field of study	Optometry

Outcomes

Outcomes of first cycle education according to the Higher Education Act

First-cycle courses and study programmes shall be based fundamentally on the knowledge acquired by pupils in national study programmes in the upper-secondary schools or its equivalent. The Government may, however, permit exceptions for courses and study programmes in the fine, applied or performing arts.

First-cycle courses and study programmes shall develop:

- the ability of students to make independent and critical assessments
- the ability of students to identify, formulate and solve problems autonomously, and
- the preparedness of students to deal with changes in working life.

In addition to knowledge and skills in their field of study, students shall develop the ability to:

- gather and interpret information at a scholarly level
- stay abreast of the development of knowledge, andcommunicate their knowledge to others, including those who lack specialist knowledge in the field.

Outcomes of the Degree of Bachelor of Science in Optometry according to the Higher Education Ordinance

Outcomes of the Degree of Bachelor according to the Higher Education Ordinance
Knowledge and understanding
For a Degree of Bachelor of Science student shall

- demonstrate knowledge and understanding in the main field of study, including knowledge of the disciplinary foundation of the field, understanding of applicable methodologies in the field, specialised study in some aspect of the field as well as awareness of current research issues.

Competence and skills
For a Degree of Bachelor of Science student shall

- demonstrate the ability to search for, gather, evaluate and critically interpret the relevant information for a formulated problem and also discuss phenomena, issues and situations critically
- demonstrate the ability to identify, formulate and solve problems autonomously and to complete tasks within predetermined time frames
- demonstrate the ability to present and discuss information, problems and solutions in speech and writing and in dialogue with different audiences, and
- demonstrate the skills required to work autonomously in the main field of study.

Judgment and approach
For a Degree of Bachelor of Science student shall

- demonstrate the ability to make assessments in the main field of study informed by relevant disciplinary, social and ethical issues
- demonstrate insight into the role of knowledge in society and the responsibility of the individual for how it is used, and
- demonstrate the ability to identify the need for further knowledge and ongoing learning.

Outcomes of the study programme at Karolinska Institutet

Outcomes of the study programme at Karolinska Institutet

Beyond the national intended outcomes, the following outcomes apply to the optician programme at Karolinska Institutet:

Knowledge and understanding
Students are to

- demonstrate an understanding of domestic violence, both women and children and men, and
- be able to describe and apply modern medical optometry in a multidisciplinary custody perspective (shared care) after completing their education.

Content and structure

The optometry programme covers 180 credits, most of which are in the main field of study of optometry. The clinical courses are conducted internally for the most part at the clinic at St. Erik's Eye Hospital but also at private optometric clinics. The clinical parts of the programme are integrated with the theoretical study. The programme is research-based in terms of content and should support students in developing a scientific approach as regards both specific subject knowledge and generic problems. The programme also focuses on internationalisation, where students are prepared to work in intercultural and international settings.

Several courses within the main field of study of optometry are taught in parallel in order to improve integration, reduce unnecessary repetition, bridge the gap between preclinical and clinical courses - all in an effort to facilitate learning. The first year is essentially a preclinical year. The courses are planned to ensure that the knowledge gained from previous courses form the basis of the studies in subsequent courses later in the semester and in future semesters. The clinical study is directed at the various activities of the optician. The same type of patient cases may reappear at the various different teaching levels with different problems of gradually increasing difficulty.
During the first year (semesters 1 and 2), the courses strive to provide a basic understanding and skills in basic optometry, geometric & physiologic optics, image quality, ocular anatomy, physiology and diseases, eye movements, binocular vision and optometric workshop methods. Students are also trained in an approach that allows them to communicate and interact with patients. The first year is mainly preclinical.

The courses in the second year (semesters 3 and 4) aim to provide students with applicable and analytical skills in the subject areas of optometry, eye pathologies, binocular problems and contact lenses. In the clinical courses, students are trained to independently practice evidence-based optometry and to analyse cases from an ethical perspective. Students receive regular training in the above areas in a clinical setting at the programme's clinic.

The courses in the third and final year of the programme (semesters 5 and 6) provide students with knowledge at a level that allows them to apply, analyse and reflect on the subject areas of clinical optometry, eye pathologies, binocular vision, optometric rehabilitation and contact lenses. The final year has a clinical focus, where students learn to analyse, reflect on the various patient cases using evidence-based optometry care and from a shared-care perspective.

The clinical courses provide knowledge at an applicable and reflective level in the field of optometry and on how to promote patient communication. The courses also ground students in an approach for interacting with patients, study subjects, relatives, colleagues and other concerned parties in a respectful way.

The programme integrates a research theme to train skills in searching for, compiling and analysing facts related to course-specific questions. The ethical perspective is discussed regularly during the optometry courses throughout all three years.

The degree project is intended to lead to a clear subject-related specialisation. The project is to be carried out with sufficient scientific methods for the question/subject and be characterised by a scientific approach.

Scientific knowledge, competence and approach

From the very start of the programme, students train searching for research articles, compiling and analysing facts related to course-specific questions and writing scientific reports. This is part of a scientific thread that is woven into the entire programme from the beginning. The course *Basic Optometry 1 and Research Methodology* introduces scientific theory, which is an important part of the research theme. The scientific thread includes practical training in written and oral presentation of scientific facts. The theme is part of several of the programme's courses and becomes increasingly advanced over time. It is integrated into the more in-depth aspects of the main field of study. The purpose of the scientific thread is to provide tools for scientific thinking and analysis, where the programme emphasises the importance of international research and the development of evidence-based work and the ability to independently search for information. This lays the foundation for lifelong learning.

The scientific thread during the first year discusses what is scientific, facts, scientific review of facts, and clinical and research ethics. Various forms of scientific communication and the difference between scientific and popular science publications are also described and discussed.

The focus of the scientific thread in semester 3 is on searching for scientific publications based on predefined criteria. These publications are then discussed in relation to course-specific questions. In parallel with this, students are trained in scientific writing with a focus on the introduction, the results section and the reference list.

The scientific thread in semester 4 continues to develop the ability of students at gathering facts and searching for articles. Special focus is given to the scientific writing process. Students compile and analyse how scientific studies relate to each other, and they are taught to write a scientific discussion.

In semesters 5 and 6, the scientific thread runs parallel with the degree project, where students continue to delve into, critically analyse and reflect on research results and integrate their theoretical and practical knowledge of the main field of optometry and their knowledge of scientific theory and research methodology by independently, or in pairs, conducting a degree project at the end of the programme.

Practice Integrated Learning

Practice integrated learning is a generic term for the pedagogical models that are based on interaction and integration between higher education and working life. Practice integrated learning may take the form of placements, study visits, observing teaching activities, staff exchange training schemes or field studies within out-patient and in-patient healthcare, social care or other relevant activities.

Over the three-year programme, students use different ways to collaborate and integrate higher education and professional life. These vary in extent from a half day to longer periods (e.g., observations, study visits, placements and collaboration with the master's programme in clinical optometry). Most practical application occurs in the programme's own clinic at St. Erik's Eye Hospital. The purpose is for students to regularly meet patients under supervision during the programme, where the demands gradually increase as they apply, analyse, reflect on and independently practice evidence-based optometric care. Students also have at least 4 weeks of placement in a private optician's clinic.

Internationalisation

As part of internationalisation, students are trained to use their knowledge and skills in intercultural and international contexts. During the programme, optometry is explored from a national and international perspective. Most of the programme's course literature is in English, which further emphasises the importance of international research and an international environment.

Elective courses

Semester 5 includes a required elective period of 7.5 credits. During this period, students either delve deeper into existing knowledge or explore new areas based on their own interests and available courses and in line with the intended outcomes for the optometry degree. Courses can include both theoretical and practical elements.

Transitional provisions

For admissions in autumn semester 2021 or earlier, entry requirements are written as follows: *Natural sciences 2 (can be certified by Biology 1, Physics 1a / Physics 1b1 + 1b2, Chemistry 1), Mathematics 2a / 2b / 2c. Or: Natural Sciences B (can be certified by Biology A, Physics A, Chemistry A), Mathematics B.*

Other guidelines

Grading scale

The grades used are Fail, Pass or Pass with Distinction. Alternative grading scales may apply to elective courses or cross-programme courses. The grading scale is detailed in the course syllabus.

Language of instruction

The course language is Swedish but courses/lectures may be held in English. A majority of the course literature is in English.

Specific eligibility requirements within the programme

There are specific eligibility requirements for the courses within the programme. The eligibility requirements can be found in the syllabi. In cases where the requirements are connected to the admission to a later semester, they are described in the course syllabi and on the programme website. There may also be specific eligibility requirements within a specific semester if a course requires certain prior knowledge. The requirements for elective courses may also differ in comparison to mandatory courses during the rest of the semester.

Study plan with constituent courses

Semester	**Course name**	**Credits**	**Main field of study**	**Cycle and depth of the course** (for first cycle courses within the main field of study)
1	Optics 1	10.5	Optometry	First (G1)
1	Basic Optometry 1 and Research Methodology	10.5	Optometry	First (G1)
1	General Anatomy and Physiology	9	- -	First
2	Ocular Anatomy, Physiology and Diseases 1	7.5	- -	First
2	Basic Optometry 2	15	Optometry	First (G1)
2	Optics 2	4.5	Optometry	First (G2)
2	Pathology	3	- -	First
3	Advanced Optometry 1	12	Optometry	First (G1)
3	Ocular Anatomy, Physiology and Diseases 2	7.5	- -	First
3	Pharmacology	3	- -	First
3	Advanced Optometry 2	7.5	Optometry	First (G2)
4	Advanced Optometry 3	9	Optometry	First (G2)
4	Microbiology	3	- -	First
4	Contact Lenses 1	4.5	Optometry	First (G1)
4	Clinical Optometry 1	7.5	Optometry	First (G2)
4	Environmental Optometry	6	Optometry	First (G2)
5	Statistics and Scientific Methods	3	- -	First
5	Clinical Optometry 2	4.5	Optometry	First (G2)
5	Elective Courses	7.5	- -	First/Second
5 and 6	Degree Project in Optometry	15	Optometry	First (G2)
5 and 6	Contact Lenses 2	15	Optometry	First (G2)
6	Clinical Optometry 3	12	Optometry	First (G2)
6	Low Vision	3	Optometry	First (G2)