



**Karolinska
Institutet**

Course syllabus for

Basic Optometry 2, 15 credits

Refraktionsmetodik 2, 15 hp

This course syllabus is valid from spring 2020.

Please note that the course syllabus is available in the following versions:

Spring2020 , Spring2022 , Autumn2022

Course code	1OP069
Course name	Basic Optometry 2
Credits	15 credits
Form of Education	Higher Education, study regulation 2007
Main field of study	Optometry
Level	G1 - First cycle 1
Grading scale	Pass with distinction, Pass, Fail
Department	Department of Clinical Neuroscience
Decided by	Education committee CNS
Decision date	2019-10-23
Course syllabus valid from	Spring 2020

Specific entry requirements

No specific entry requirements.

Objectives

After the course, the student should be able to

- 1) apply binocular/monocular refraction based on retinoscopy value and evaluate the reasonableness in relation to visus and medical history of the result
- 2) apply refraction without objective start value
- 3) apply cardiopulmonary resuscitation
- 4) describe, apply and interpret refraction and preliminary optometric tests and put the test results in relation to anamnes
- 5) describe and give an account of contrast vision and relate result to different conditions
- 6) describe and account for the preconditions and function of the binocular vision and foris and tropies – cause, occurrence, classification and related symptoms, and
- 7) list and handle various types of multifocal glass and describe their properties,
- 8) apply instruments for measure the lens (focimeter) to verify all types of glass
- 9) apply and interpret wavefront measurements
- 10) reason about sustainable development as a concept and as an integrated (ecological, economic and

social) perspective on social progress and man's interplay with nature – particularly from an optometric perspective.

11) discuss ethical aspects of vision and scientific methodology.

In supplements to above the student should also, in an appropriate level, based on optometry, care and scientific perspective

12) show ability to review knowledge at a scientific level

13) show understanding about different scientific types of publication and about the disciplinary foundation of the field,

14) show the ability to compare and put together relevant information from scientific literature and discuss new facts, phenomena, hypothesis and issues.

Aim 12-14 should be seen in relation to the document "Vetenskaplig strimma Optikerprogrammet" (Scientific streamline in optometry program).

Content

The course includes the following: Phoropter, retinoscopy, contrast, luminance, CPR, wavefront measurements, different glass types, material- and instrument knowledge, refraction for different patient groups and continuation of preliminary tests, and binocular vision tests, test for suppression, fusion and stereoscopic vision, measurement of phoria and tropia and focimeter. Relevant statutes about e.g. confidentiality, medical records keeping and ethical aspects in care and science and sustainable development in an optometric health care perspective.

In addition to this the course is part of the teaching of general scientific knowledge within the program. In relation to teaching of general scientific knowledge, the students will continue to broaden their knowledge related to the scientific base of optometry, best practice and scientific communication. They will also develop his knowledge and understanding, his skills and abilities his judgement and his scientific thought - and attitude in relation to optometry and a lifelong learning. The teaching of general scientific knowledge is described in a separate document.

The course is divided in the following three modules:

Clinical work, 2.0 hp

Grading scale: GU

Module 1 include written assignments, group assignment, workshop, clinical work, attendance on compulsory parts and practically methodology in focimeter for attestation of all types of glass.

Practical skills, 6.0 hp

Grading scale: GU

Module 2 includes the ability to carry out and reflect around practical examination methodology.

Theoretical understanding, 7.0 hp

Grading scale: VU

Module 3 includes theoretical understanding of the course contents.

Teaching methods

The course includes self-study, demonstrations, test, laboratory sessions, theoretical overviews (in the form of e.g. lectures, seminars, flipped-classroom, case methods), practical/clinical exercises and written assignments. The students are given a possibility to train practical skills but must take a great

responsibility themselves.

Seminars and laboratory sessions are compulsory.

Examination

The course is assessed against the aim of the course on the following way:

Module 1, Clinical work, assess all aims.

The module is assessed through written assignments and practical test in focimeter.

The module is graded according to the scale Fail/Pass.

Module 2, Practical proficiency, assess the aims 1 and 4.

The module is assessed by a practical test in refraction, binocular vision tests, preliminary tests.

The module is graded according to the scale Fail/Pass.

Module 3, Theoretical understanding, assess all aims.

The module is examined with written/oral test. Retake may take place orally.

The module is graded according to the scale Fail/Pass/Pass with distinction.

Grades whole course

The whole course is graded according to the scale Fail/Pass/Pass with distinction.

For the grade Pass in the whole course is required Passed at all modules, and attendance at compulsory elements.

For Pass with distinction in the whole course is required Passed in module1 and 2, Pass with distinction in module 3 and attendance at compulsory elements.

Criteria for assessing practical tests are established in separate documents

Absence from compulsory course elements

The examiner assesses if, and how, absence from compulsory parts can be compensated. Study results cannot be reported until the student has participated in compulsory course elements or compensated for any absence in accordance with instructions from the examiner. Absence from a mandatory education element could mean that the student can not do the part until the next time the course is offered.

Limitation of number of tests or practical training sessions

Student who do not pass the regular examination are entitled to re-sit the examination at five more occasions. If the student has carried out six failed tests, no further examination opportunity is given. As examination, the times are counted when the student has participated in the same test. Examination to which the student registered, but not participated, be counted not as examination.

Opportunity for exception from the regulations of the course syllabus of examination

If there are special grounds, or a need for adaptation for a student with a disability, the examiner may decide to deviate from the syllabus's regulations on the examination form, the number of examination opportunities, the possibility of supplementation or exemptions from the compulsory section/s of the course etc. Content and learning outcomes as well as the level of expected knowledge, skills and attitudes may not be changed, removed or reduced.

Transitional provisions

If the course is closed down or undergoes major changes, students who have not completed the course are given the possibility, during four semesters from the date when the student first registered in the course, to be examined under the then current syllabus After four semesters, the student is examined under the new syllabus.

Other directives

Course evaluation takes place according to guidelines established by Karolinska Institutet.

The course may be given in parallel with the course Optics 2 (KTH) and is based on knowledge acquired at the course.

Some teaching may be in English.

Literature and other teaching aids

Mandatory literatur

Benjamin, William J.; Borish, Irvin M.

Borish's clinical refraction

2nd ed. : St. Louis, Mo. : Butterworth-Heinemann/Elsevier, c2006. - xviii, 1694 p.

ISBN:0-7506-7524-1 LIBRIS-ID:10580274

[Library search](#)

Scheiman, Mitchell; Wick, Bruce

Clinical management of binocular vision : heterophoric, accommodative, and eye movement disorders

Fourth edition. : Philadelphia, Pennsylvania : Lippincott Williams & Wilkins, 2014 - ix, 722 pages

ISBN:9781451175257 LIBRIS-ID:16337727

[Library search](#)

Recommended literature

Rabbetts, R. B.

Clinical Visual Optics

4:e upplaga : Oxford: Butterworths - 488s. : 2007

ISBN:0-7506-8874-2

[Library search](#)

Clinical procedures in primary eye care

Elliott, David B.

3rd ed. : Edinburgh ;a New York : Elsevier/Butterworth Heinemann, 2007 - xii, 342 p.

ISBN:978-0-7506-8896-3 LIBRIS-ID:11008167

[Library search](#)

Grosvenor, Theodore P.

Primary care optometry

5th ed. : St. Louis, Mo. : Butterworth-Heinemann/Elsevier, c2007 - xiii, 510 p.

ISBN:0-7506-7575-6 LIBRIS-ID:10438993

[Library search](#)

Evans, Bruce J. W.; Pickwell, David.t Binocular vision anomalies

Pickwell's binocular vision anomalies

5. ed. /b Bruce J.W. Evans : Edinburgh ;a New York : Elsevier Butterworth Heinemann, 2007 - 454 s.

ISBN:978-0-7506-8897-0 LIBRIS-ID:10659509

[Library search](#)

Steinman, Scott B.; Steinman, Barbara A.; Garzia, Ralph P.

Foundations of binocular vision : a clinical perspective

New York : McGraw-Hill Co., c2000. - xi, 345 p.

ISBN:978-0-8385-2670-5 (alk. paper) LIBRIS-ID:11950260

[Library search](#)

Foundations of binocular vision [Ljudupptagning] : a clinical perspective

Steinman, Scott B.; Steinman, Barbara A.; Garzia, Ralph Philip; Nygaard, Ragnhild

Johanneshov : TPB, 2010 - 1 CD-R (29 tim., 5 min.)

LIBRIS-ID:12620973