



**Karolinska
Institutet**

Course syllabus for

Advanced Optometry 3, 9 credits

Synundersökningsmetodik 3, 9 hp

This course syllabus is valid from spring 2025.

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

Autumn2023 , Spring2024 , Spring2025

Course code	1OP087
Course name	Advanced Optometry 3
Credits	9 credits
Form of Education	Higher Education, study regulation 2007
Main field of study	Optometry
Level	G2 - First cycle 2
Grading scale	Pass with distinction, Pass, Fail
Department	Department of Clinical Neuroscience
Decided by	Education committee CNS
Decision date	2023-04-05
Revised by	Education committee CNS
Last revision	2024-09-25
Course syllabus valid from	Spring 2025

Specific entry requirements

Passed results of at least 45 credits from the Study Programme in Optometry's semester 1 and 2, as well as passed results from the module Clinical work (4 credits) in the course Advanced Optometry 1 from the Study Programme's semester 3.

Students who have failed their VIL (clinical training opportunity) after demonstrating serious deficiencies in understanding, skill, or professional attitude, and done this to the degree that client or patient safety or client/ patient/ employer trust for the healthcare have been jeopardised, will qualify for a new VIL opportunity only after completion of an individual action plan.

Objectives

After the course, the student should be able to

- 1) perform complete vision screening according to laws and regulations and analyse and reflect on research results in relation to different optometric case types including to prescribe and apply treatment practically
- 2) describe, apply and analyse methods for evaluating the binocular functions and evaluate outcome and prescribe treatment

- 3) apply methods to examine and evaluate the anterior and posterior segments of the eye and be able to analyse the result in relation to different pathological conditions
- 4) perform, interpret and analyse vision field screening (perimetry) and fundus imaging and be able to see relationships between structure and function
- 5) describe, apply and analyse methods to evaluate dry eyes and recommend treatment
- 6) based on a global health perspective be able to understand and evaluate occurrence and differences in refraction development among individuals
- 7) identify, reason and reflect on questions about ethics and equal conditions, and on sustainable development as concept, area of knowledge and as an integrated perspective on societal development and man's interaction with nature - particularly in an optometric perspective
- 8) list and describe the processes involved in the perception of light and colour ,
- 9) list and describe the processes involved in form perception and perception of depths,
- 10) list and describe the processes involved in motion and temporal perception,
- 11) describe the use of methods for study of contrast sensitivity and to be able to interpret the results
- 12) describe psychophysical methods used in the study of the visual function.

In addition to the above the student should, in a level-suited optometry-, care- and scientific perspective, be able to

- 13) search, collect, and evaluate information from a presented problem, and to discuss phenomena, issues and situations critically,
- 14) independently identify, formulate and solve problems in writing, and perform assignments within given time frames, and
- 15) formulate scientific text in writing.

Aim 13-15 should be seen in relation to the document "Vetenskaplig strimma Optikerprogrammet" (Scientific streak in optometry program).

Content

The course includes the following parts: colour perception, depth perception, form perception, light perception, motion perception, temporal perception, contrast sensitivity and psychophysical methods. Large focus is also placed on complete vision screening on external patients, recipe/referrals, prescription, visual field, fundus, binocular vision, screening methods and dry eyes in connection with clinical training opportunity (VIL).

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 continue to broaden their knowledge related to the scientific base of optometry, science and proven experience and scientific communication. They also develop their knowledge and understanding, skills and abilities, their judgement, 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, 4.0 hp

Grading scale: GU

The module includes VIL, portfolio and formative assessment of clinical proficiencies and patient care, and practical test of vision screening.

Theoretical understanding, 2.5 hp

Grading scale: VU

The module includes theoretical understanding and revenue of the topic-specific contents of the course.

Scientific development, 2.5 hp

Grading scale: GU

The module includes assignments in KI's virtual learning environment, the scientific streak and written assignments.

Teaching methods

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

Examination

The course is examined in the following way:

Module 1, Clinical work, examines the learning outcomes 1 up to 7.

- a) continuous examination of clinical proficiencies and patient care in connection with VIL (Fail/Pass)
- b) compulsory portfolio according to instructions
- c) practical test of vision screening (Fail/Pass)
- d) compulsory seminars and demonstrations as per schedule

The module is given the grade Fail or Pass. For Pass is required Pass on examination assignment a) and c), and fulfillment of compulsory course elements.

Module 2, Theoretical understanding, examines the learning outcomes 1 up to 15.

- a) written examination, is given the grade Fail, Pass or Pass with distinction
- b) compulsory seminars and demonstrations as per schedule

The module is given the grade Fail, Pass or Pass with distinction. For Pass, Pass on written examination is required, and fulfillment of compulsory course elements. For Pass with distinction, Pass with distinction on written examination is required, and fulfillment of compulsory education elements.

Module 3, Scientific development, examines the learning outcomes 1-15.

- a) compulsory assignments in KI's virtual learning environment
- b) written assignments, are given the grade Fail or Pass
- c) compulsory seminars and demonstrations as per schedule, this is part of the scientific streak of the programme

The module is given the grade Fail or G. For Pass is required Pass on all written assignments b), and fulfillment of compulsory course elements.

Course grade

The entire course is given the grade Fail (U), Pass (G) or Pass with distinction (VG).

For Pass, Pass on all modules is required. For Pass with distinction, Pass is required on module 1 and 3, and Pass with distinction on module 2.

Absence from or unfulfillment of compulsory course element

The examiner decides whether, and if so how, absence from or unfulfillment of compulsory course elements can be made up for. Study results cannot be reported until the student has participated in or fulfilled compulsory course elements, or compensated for any absence/ failure to fulfill in accordance with instructions from the examiner. Absence from or unfulfillment of a compulsory course element may imply that the student can not retake the element until the next time the course is offered.

Limited access to VIL (clinical training opportunity)

Regarding VIL, the number of times a student has the right to participate/go through the course and thus be assessed on the same is not limited. However, participation in VIL will only be offered on the

condition that there is a place available in the course.

Guidelines for canceling a VIL opportunity

The examiner may, with immediate effect, interrupt a student's clinical placement (or equivalent) if the student demonstrates such serious deficiencies in knowledge, skills or attitude that patient safety or patient confidence in healthcare is at risk. If a clinical placement is interrupted in this way the student is deemed to have failed that element and to have used up one clinical placement opportunity. In such cases, an individual action plan should be set up stating which activities and tests are required before the student is qualified for a new clinical placement on the course. The number of times a student has the right to undergo activities and knowledge checks according to the individual action plan is limited to two times.

Possibility of exception from the course syllabus' regulations on 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 cancelled or goes through substantial changes, information about interim regulations will be stated here.

Other directives

Course evaluation takes place in accordance with KI's local guidelines. Compilation of the students' answers in course questionnaires and the course coordinator's analysis of these are published on KI's public course web.

Some teaching may be in English.

Literature and other teaching aids

Mandatory literature

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](#)

Schwartz, Steven H.

Visual perception : a clinical orientation

4th ed. : New York : McGraw-Hill Medical Pub. Division, c2010. - xvi, 488 p.

ISBN:978-0-07-160461-1 (hardcover : alk. paper) LIBRIS-ID:11730059

[Library search](#)

VISUAL FIELD DIGEST. A guide to perimetry and the Octopus perimeter, 6th ed.

Racette, Lyne; Fischer, Monika; Bebie, Hans; Holló, Gábor; Johnson, Chris A.; Matsumoto, Chota

Haag-Streit AG, Köniz, Switzerland, 2017

URL:

https://www.haag-streit.com/fileadmin/Haag-Streit_USA/Visual_Field_Digest_6th_edition_2017.pdf

Scheiman, Mitchell; Wick, Bruce; Steinman, Barbara A.

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

Fifth edition : Philadelphia, PA : Wolters Kluwer, [2020] - ix, 723 pages

ISBN:9781496399731 LIBRIS-ID:0c2sjhr1x9bq65pq

[Library search](#)

Reference literature

Clinical ophthalmology : a systematic approach

Kanski, Jack J.; Bowling, Brad; Nischal, Ken K.; Pearson, Andrew

7. ed. : Edinburgh : Butterworth-Heinemann, 2011 - ix, 909 s.

ISBN:978-0-7020-4093-1 (hbk.) LIBRIS-ID:12189545

[Library search](#)

Clinical procedures in primary eye care

Elliott, David B.

Fifth edition. : Amsterdam : Elsevier, [2021] - xi, 324

ISBN:9780702077890 LIBRIS-ID:hvmmfz27fzbcwq7n

[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](#)

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

Grosvenor, Theodore P

Primary care optometry

5th ed. : St. Louis : Butterworth-Heinemann/Elsevier, 2007 - 510 p.

ISBN:978-0-7506-7575-6

[Library search](#)

Millodot, Michel

Dictionary of optometry and visual science

7. ed. : Oxford : Butterworth-Heinemann, 2009 - 409 p

ISBN:978-0-7020-2958-5

[Library search](#)

Rabbetts, R. B.

Clinical Visual Optics

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

ISBN:0-7506-8874-2

[Library search](#)

Rutstein, Robert P.

Anomalies of binocular vision : diagnosis & management

Daum, Kent Michael

St. Louis ; b Mosby, c cop. 1998 : Mosby, cop. 1998 - xv, 368 s.

ISBN:0-8016-6916-2 LIBRIS-ID:5674465

[Library search](#)