



**Karolinska  
Institutet**

Course syllabus for

## **Advanced Optometry 1, 12 credits**

Synundersökningsmetodik 1, 12 hp

This course syllabus is valid from autumn 2022.

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

Autumn2020 , Autumn2022 , Autumn2023

Course code	1OP071
Course name	Advanced Optometry 1
Credits	12 credits
Form of Education	Higher Education, study regulation 2007
Main field of study	Optometry
Level	G1 - First cycle 1
Grading scale	Fail (U), pass (G) or pass with distinction (VG)
Department	Department of Clinical Neuroscience
Decided by	Education committee CNS
Decision date	2020-04-01
Revised by	Education committee CNS
Last revision	2022-02-23
Course syllabus valid from	Autumn 2022

### **Specific entry requirements**

Passed results of at least 45 credits from the Study Programme in Optometry's semester 1 and 2.

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) describe and analyse different physiological aspects related to different visual defects
- 2) describe and apply methods for study of binocular functions
- 3) apply methods to examine and evaluate the anterior segments of the eye (tear film, cornea, conjunctiva, intraocular lens)
- 4) perform vision field screening (perimetri) and handle instruments for diagnosis and discovery of lesions in the posterior part of the eye
- 5) perform a complete eye examinations and analyse the results from a full refraction in trial frame and

foropter with routine adapted to the patient's visual defect, visual - and mental ability, and interpret and evaluate the results

- 6) list, describe, measure and analyse the myopia in relation to the patient's age and expected ability
- 7) apply communicative tools for medical history taking
- 8) examine and analyse research results in relation to different optometric case types, including prescribe and practically apply treatment
- 9) from a global health perspective, be able to understand and evaluate occurrence and differences in refraction development among individuals
- 10) identify, reason and reflect on issues of ethics, sustainable development and equal opportunities
- 11) identify, reason and reflect on their and other professions' role in contributing to sustainable eye health care development.

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

- 12) discuss and evaluate knowledge at scientific level
- 13) show understanding about different scientific types of publication and about the disciplinary foundation of the field
- 14) identify his/her need for additional knowledge and continuous skill development
- 15) compare and reflect on relevant information from scientific literature, and discuss new facts, phenomena and issues
- 16) formulate scientific text in writing.

Aim 12-16 should be seen in relation to the document "Vetenskaplig strimma Optikerprogrammet" (Scientific Thread in Study Programme of Optometry).

## Content

The course includes the following: perform complete eye examination focusing on binocular vision, clinical methodology for preliminary tests, phoria measurement, vergence measurement and ACA value, vision at near, refraction in foropath and trial frame, binocular refraction methodology, patient routines and biomicroscopy including examining cornea, conjunctiva, intraocular lens and evaluate the tear film. Vision at near also includes presbyopia and addition at near. Furthermore, the course contains Vision field screening, fundus imaging and physiological aspects related to visual defects.

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 formative assessment of clinical proficiencies in connection with VIL, and portfolio.

### **Theoretical understanding, 4.0 hp**

Grading scale: VU

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

### **Scientific development, 4.0 hp**

Grading scale: GU

The module includes assignments in KI's virtual learning environment and the scientific thread in the programme.

## Teaching methods

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

Some course elements are compulsory, see heading "Examination".

## Examination

The course is examined in the following way:

### *Module 1, Clinical work*

- a) continuous examination of clinical proficiencies and patient care in connection with VIL, is graded U (Fail) or G (Pass)
- b) compulsory portfolio according to instructions

The module is graded U or G. The grade G requires G on examination a) as well as fulfillment of compulsory course elements.

### *Module 2, Theoretical understanding*

- a) written examination, is graded U, G or VG (Pass with distinction)

The module is given the same grade as the written examination, U, G or VG.

### *Module 3, Scientific development*

- a) compulsory assignments in KI's virtual learning environment
- b) compulsory seminars and demonstrations as per schedule, a part of the scientific thread in the programme

The module is graded U or G. The grade G requires fulfillment of compulsory course elements.

### *Course grade*

The entire course is graded U, G or VG.

The grade G requires G on all modules. The grade VG requires G on module 1 and 3, as well as VG 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.

### *Guidelines in case of failure*

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 VIL opportunity is interrupted in this way, the student is deemed to have failed that module and to have used one VIL opportunity. In such cases, an individual action plan should be established, where it is made explicit what activities and examinations are required before the student is qualified for a second VIL opportunity on the course.

### *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

*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](#)

*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 : 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](#)

*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

*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](#)