



**Karolinska
Institutet**

Course syllabus for

Optometry 1, 9 credits

Grundläggande optometri 1, 9 hp

This course has been cancelled, for further information see Transitional provisions in the last version of the syllabus.

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

Autumn2012 , Autumn2013 , Autumn2015 , Autumn2017

Course code	1OP050
Course name	Optometry 1
Credits	9 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	Programnämnd 8
Decision date	2012-05-08
Revised by	Programme Committee 8
Last revision	2015-05-07
Course syllabus valid from	Autumn 2015

Specific entry requirements

MaB, FyA, KeA, BiA (or NkB)

Objectives

After the course, the student should be able to:

- 1) list and describe various types of visual defects (refractive errors/ametropia/emmetropia), and explain/describe how the eye can change refraction (accommodation); and describe/explain how lenses influences the retinal image
- 2) list and compare various letter charts, and carry out visual acuity tests and relate the results to the different visual defects,
- 3) list and apply different methods for identification and determination of visual defects and explain choice of method and how astigmatism influences the retinal image.
- 4) apply approximation tables and fan chart to estimate and decide on astigmatism
- 5) apply communicative tools to find out, document and evaluate relevant information (medical history taking) as a basis for the implementation of the vision screening

- 6) list various types of glass materials and list and handle frame materials, and describe their characteristics,
- 7) apply instruments for measure the lens (focimeter) to verify single power lenses, and be able to calculate decentration in relation to PD (pupil distance) and height theoretically
- 8) show included understanding of aspects around confidentiality in a healthcare context and knowledge of relevant ordinances in relation to record keeping and ethical aspects within the care.

And that the student in relation to their prior knowledge and skills should be able to show:

- 9) ability to distinguish knowledge at the scientific level
- 10) understanding about scientific different types of publications, and
- 11) ability to identify and account for relevant information from scientific literature and to discuss new facts, phenomena and issues.

Aim 9-11 should be seen in relation to the document "Vetenskaplig strimma Optikerprogrammet".

Content

The course contains the following parts: Materials science (glass and frames), PD-measurements and prism, refractive errors, emmetropia, visual acuity, methods and medical history and medical record, approximation, detection and correction (subjective and objective) of astigmatism, trial frame, material and instrumental theory and relevant laws and regulations such as confidentiality, record keeping and ethical aspects within eye care.

In addition to this the course is part of the general scientific education within the program. In connection with this, the students will be introduced to scholarship and 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 general scientific education is described in a separate document.

The course is divided into three (3) parts:

Clinical Work, 5 hp Part 1 includes written assignments and group assignment and clinical work.

Focimeter Skills, 1 hp Part 2 includes the ability to use focimeter for attestation of glass strengths.

Theoretical Understanding, 3 hp Part 3 includes theoretical understanding of the course contents.

Teaching methods

The course comprises self-study, demonstrations, laboratory sessions, theoretical overviews (in the form of lectures, seminars, Case methods, practical exercises), study visits and written assignments.

The students are given a possibility to train practical skills but must take a great responsibility themselves.

Examination

The course be examined against the following aims and on the following way:

Part 1, Clinical work, examines the learning outcomes 1-11. Compulsory participation applies at demonstrations, test, laboratory sessions, seminars, study visits and at practical/clinical exercises. in case of absence, measures to be taken are discussed with the course director. The part is examined through written assignments, workshops and a practical test in refractioning. The part is graded according to the scale Fail (U)/Pass (G).

Part 2, Focimeter skills examines aim 7. The part is examined through a practical test in focimeter. The part is graded according to the scale Fail (U)/Pass (G).

Part 3, Theoretical understanding examines the aims 1-11. The part is examined with a written test. Re examination may be oral.

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

The whole course is graded according to the scale Fail/Pass/Pass with distinction. For a Pass grade in the course, a Pass grade is required for all its parts. For a Pass with distinction, a Pass grade in parts 1 and 2, and a Pass with distinction in part 2 is required.

Criteria for assessing practical tests are established in separate documents.

Limitation of number test- or practical training sessions A student who fails the regular examination has the right to participate at additional five examinations. If the student fails six examinations/test there will be no additional examination. As an examination, the times that the student has participated the same test are counted. Submission of blank exam is counted as an examination. Examination to which the student registered, but not participated, be counted not as examination.

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 will be carried out in accordance with the guidelines established by the Board of Higher Education.

The course may be given in parallel with the courses Physical optics and Geometric optics (KTH) and is based on knowledge acquired at these courses.

Teaching in English can occur.

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](#)

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](#)

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](#)

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](#)

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

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