Course syllabus for

Ocular anatomy, physiology and diseases 1, 7.5 credits

Ögats anatomi, fysiologi och sjukdomar 1, 7.5 hp
This course syllabus is valid from spring 2020.
Please note that the course syllabus is available in the following versions:
Spring2020 , Spring2022 , Autumn2022 , Spring2025

Course code	1OP068
Course name	Ocular anatomy, physiology and diseases 1
Credits	7.5 credits
Form of Education	Higher Education, study regulation 2007
Main field of study	Not applicable
Level	GX - First cycle
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 are required.

Objectives

After the course, the student should be able to

1) describe and explain the osteology of the orbit, and its blood supply and innervation.
2) describe and explain the sclera, the cornea, the conjunctiva and limbus/the border between the cornea and the conjunctiva and their structure and function,
3) describe and explain the lens, ciliar body, iris and accommodation mechanism including anterior chamber, posterior chamber, aquas humor, and the intra ocular pressure
4) describe and explain for human ocular accommodation – how it be stimulated and changes with age, and describe and account for pupil reactions and how these are connected with the accommodation
5) describe and explain the external parts of the eye (eyelids and lacrimal system), the structure and function of the tear film and who to measure the stability of the tear film (BUT, NIBUT),
6) describe and explain the external muscles – their process, function, movement and innervation and vascular supply of the eye
7) Perform and interpret pressure measurings (IOP), pupillay respons test and evaluate the main parts of

the eye whit the slit lamp
8) list and make differential diagnosis of injuries and diseases in the main parts of the eye and in the aging eye (rear and main parts), and
9) describe differences in occurrence of diseases in the main segments of the eye based on an ethnic and global health perspective.

In supplements to above the student should, in a level adapted optometry, care and scientific perspective be able to

10) ability to distinguish knowledge at the scientific level
11) describe different scientific types of publications and about the disciplinary foundation of the field
12) ability to distinguish and combine relevant information from scientific literature and to discuss new facts, phenomena and issues and
13) large ability to orally and account in writing too and discuss information, problem and solutions in dialogue with different groups.

Aim 10-13 should be seen in relation to the document "Vetenskaplig strimma Optikerprogrammet" (Scientific streak of the optometry program)

Content

The course includes the following: anatomy, physiology, diseases in the main parts of the eye, diseases in the aging the eye and study and evaluation of main segments. In addition, the course is part of the scientific streak within the program. In connection with the Scientific streak of the optometry program, students are introduced in a level and subject-adapted way to science, science and proven experience as well as scientific communication. They will also develop knowledge and understanding, skills and abilities, judgement and their 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 two modules:

Clinical work, 3.5 hp

Grading scale: GU

Module 1 includes written assignments, group assignment, clinical work and practical test in clinical practical methodology.

Theoretical understanding, 4.0 hp

Grading scale: VU

Module 2 includes theoretical understanding and renewal of the topic-specific contents of the course.

Teaching methods

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

Seminars and demonstrations are compulsory.

Examination

The course is examined in the following way:

Module 1, Clinical work, assess the aims 1 up to 13.
The module is assessed through written assignments and practical test in slit lamp.
The module is graded according to the scale Fail/Pass.

Module 2, Theoretical understanding, assess the aims 1 up to 13.
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.

Course grade
The whole course is graded according to the scale Fail/Pass/Pass with distinction.
The grade Pass on the entire course requires Pass on all modules, as well as fulfillment of compulsory course elements
The grade Pass with distinction on the entire course requires Pass on module 1, Pass with distinction on module 2 and fulfillment of compulsory course 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 course elements can be made up for. 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 the number of tests or practical training sessions
Student who do not pass the regular examination is 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.

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 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.

Some teaching may be in English.

Literature and other teaching aids

Mandatory literatur

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

Remington, Lee Ann.
Clinical anatomy and physiology of the visual system

3rd ed. : St. Louis : Elsevier/Butterworth-Heinemann, c2012. - ix, 292 p.
ISBN:1437719260 LIBRIS-ID:20698295
Library search

Recommended literature

Lönwe, Bo
Ögonsjukdomar i primärvården
Tornqvist, Kristina; Bengtsson-Stigmar, Elisabeth

[Ny utg.] : Malmö : Leo Pharma Nordic, cop. 2005 - 123 s.
ISBN:91-974368-4-4 LIBRIS-ID:10697668
Library search

Bergmansson, Jan P.G
Clinical ocular anatomy and physiology

Texas eye research and technology center, 2009 - 218 p
ISBN:13:978-0-9800-708-1-1
Library search

Ehlers, Justis P.; Shah, Chirag P.
The Wills eye manual : office and emergency room diagnosis and treatment of eye disease.

5th ed. /b editors, Justis P. Ehlers, Chirag P. Shah ; associate editors, Gregory L. Fenton, Eliza N. Hoskins, Heather : Philadelphia : Wolters Kluwer / Lippincott Williams & Wilkins, c2008. - xvii, 455 p.
ISBN:978-0-7817-6962-4 LIBRIS-ID:11823109
Library search

Lang, Gerhard K.
Ophthalmology : a short textbook

Stuttgart : Thieme, 2000 - 586
ISBN:3131261617
Library search

Saude, Trygve
Ocular anatomy and physiology

London : Blackwell Science, cop. 1993 - vii, 168 s.
ISBN:0-632-03599-4 LIBRIS-ID:9066980
Library search