



**Karolinska  
Institutet**

Course syllabus for

## **Anatomy and physiology of the eye, 6 credits**

Ögats anatomi och fysiologi, 6 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:

Spring2008 , Spring2010 , Spring2011

Course code	1OP005
Course name	Anatomy and physiology of the eye
Credits	6 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	Programnämnden för Optikerprogrammet
Decision date	2007-10-17
Course syllabus valid from	Spring 2008

## **Specific entry requirements**

Standardised admission requirements E.1.

## **Objectives**

1) - describe and account for the osteology (the structure of the orbit) and vessels of the orbit, innervation 2) - describe and account for the external tissues of the eye (sclera/sclera, cornea/cornea, conjunctiva and limbus/the verge between cornea and conjunctiva) and their structure and function, 3) - carry out and interpret measurements of the curvature of the cornea by means of a keratometer, 4) - describe and account for the middle tissues of the eye (uvea/uveal tract, choriodea, corpus ciliare and iris) 5) - describe and account for the internal tissues, media and focusing mechanism of the eye (camera anterior/main chamber, camera posterior/rear chambers, the lens, the vitreous body, chamber water, the intraocular pressure and accommodation), 6) - carry out and interpret pressure measurements 7) - describe and account for the cells, tissues, blood supply, innervation, metabolism and vision processes. 8) - describe and account for the structure of the visual pathway, function and vascular supply (nervus opticus/optic nerve, chiasma/optic nerve crossing, tractus opticus/part of the visual pathway between the optic nerve crossing and the lateral geniculate body, geniculate body, corpus geniculatum laterale/lateral geniculate body, radiatio optica/optic nerve radiation and visual cortex), 9) - describe and account for the external parts of the eye fascia bulbi/tennons cap, arcus superciliaris, palpebra and conjunctiva), 10) -

describe and account for the lachrymal system and the structure and function of the tear film and measure the stability of the tear film (break-up-time, BUT).

## Content

The course contains the following parts: orbit, the external tissues of the eye, keratometry, the middle tissues of the eye, the inner tissues of the eye and media, tonometry, retina, the visual pathway, the external parts of the eye, the lachrymal system, and tear film assessment. For a detailed list of contents, see the subject list of the course. The course starts with self-study and continues with theoretical overviews, demonstrations and exercises. The theoretical overview takes place through different tuition forms (interactive media, Case methodology, whole-group lectures etc). The students are given a possibility to train practical skills but must take a great responsibility themselves. The course is divided in three parts: 1) Mandatory attendance - 1 credit (Mandatory attendance - 1 ECTS credit). Mandatory attendance comprises attendance in mandatory demonstrations, laboratory sessions and exercises). 2) Assignments - 1 credit (Assignments - 1 ECTS credit). Comprises submission of written assignments and completed group assignment. 3) Theoretical understanding - 4 credits (Theoretical understanding - 4 ECTS credits). Comprises a theoretical understanding and application of the subject-specific contents of the course.

### Mandatory attendance, 1.0 hp

Grading scale: VU

Compulsory attendance comprises attendance at demonstrations, test, laboratory sessions, seminars, study visits and at practical/clinical exercises.

### Assignments, 1.0 hp

Grading scale: VU

Comprises submission of written assignments and completed group assignment.

### Theoretical understanding, 4.0 hp

Grading scale: VU

Comprises a theoretical understanding and application of the subject-specific contents of the course.

## Teaching methods

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

## Examination

The examination comprises: 1) Compulsory attendance 2) Assignments. Examines the aims 1 to 10. 3) Written/Oral examination. Examines the aims 1 to 10. In the part Mandatory attendance, attendance is required in demonstrations, seminars, laboratory sessions and exercises. In case of absence, measures to be taken are discussed with the course director. The part is graded according to the scale Fail/Pass. In the part submission/group assignments, submission of complete assignments is required. The part is graded according to the scale Fail/Pass. The part Theoretical understanding is examined through written/oral examinations. The part is graded according to the scale Fail/Pass/Pass with distinction. For admission to the examination, it is required that the parts Mandatory attendance and Assignments are

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

## Transitional provisions

When a student fails an examination, there will be an opportunity for a new examination. All in all, 6 opportunities for a new examination are provided for all parts

## Other directives

Course evaluation will be carried out in accordance with the guidelines established by the Board of Education. The course is given in parallel with the course Eye movements and binocular vision and is, at the same time, also based on previous courses in the program.

## Literature and other teaching aids

*Remington, Lee Ann*

### **Clinical anatomy of the visual system**

2. ed. : St. Louis; Mo : Elsevier Butterworth Heinemann, 2005 - xi, 292 s. : ill.

ISBN:0-7506-7490-3

[Library search](#)

*Saude, Trygve*

### **Ocular anatomy and physiology**

*Fletcher, R.*

London : Blackwell Science, 1993 - vii, 168 s. : ill.

ISBN:0-632-03599-4

[Library search](#)