Universitat Autònoma de Barcelona

**2023/2024**

# Clinical Ophthalmology

Code: 106691
ECTS Credits: 3

| Degree | Type | Year | Semester |
|---|---|---|---|
| 2502442 Medicine | OB | 4 | 0 |

## Contact

Name: Jose Garcia Arumi

Email: jose.garcia@uab.cat

## Teaching groups languages

You can check it through this link. To consult the language you will need to enter the CODE of the subject.
Please note that this information is provisional until 30 November 2023.

## Teachers

José Gracia Martinez

Josep Ramon Anglada Escalona

Jaime Rigo Quera

Antonio Sabala Llopart

Carlos Cuesta Acero

Jesus Diaz Cascajosa

Miguel Angel Zapata Victori

Zoraida del Campo Carrasco

Jose Ignacio Vela Segarra

Xavier Valldeperas Belmonte

Tirso Alonso Alonso

## Prerequisites

Sufficient knowledge of the basics of health and disease states is desirable, as well as an adequate level of knowledge in interpersonal communication.

It is advisable to have previously acquired sufficient knowledge and competences in:

1.- General anatomy of the different organs and systems, and specific to ophthalmology
2.- General physiology of the different organs and systems, and specific to ophthalmology
3.- General knowledge of histology and pathological anatomy related to ophthalmology

The student will acquire the commitment to preserve the confidentiality and professional secret of the data that

he may have access to because of the learning in the healthcare services. Also in maintaining an attitude of professional ethics in all their actions.

## Objectives and Contextualisation

The objectives of the subject are:

To give the student a general knowledge of the normal and pathological aspects of ophthalmology. To train him to be able to identify the symptoms and signs of ophthalmological diseases, and to be able to properly interpret the basic complementary tests of the specialty (campimetry, optical coherence tomography, angiography, retinography, ultrasound).

The student must:

To be in a position to give a first diagnostic orientation for some diseases, particularly those that have a greater prevalence.

Recognize the symptoms and warning signs that indicate the need for urgent attention, both at the beginning and during the evolution of the disease.

Have specific knowledge about the etiology, clinic, diagnosis, treatment and prognosis of ophthalmological diseases, with special emphasis on the most frequent diseases, both in primary and hospital medicine.

Familiarize yourself with the ordered diagnostic sequence of ophthalmological diseases.

Participate in the differential diagnosis process, making rational use of the speciality's own examinations.

Know the indications for medical and surgical ophthalmological treatments.

## Competences

- Demonstrate basic research skills.
- Demonstrate understanding of the manifestations of the illness in the structure and function of the human body.
- Demonstrate, in professional activity, a perspective that is critical, creative and research-oriented.
- Establish a diagnostic approach and a well thought-out strategy for action, taking account of the results of the anamnesis and the physical examination, and the results of the appropriate complementary tests carried out subsequently.
- Formulate hypotheses and compile and critically assess information for problem-solving, using the scientific method.
- Indicate the basic diagnosis techniques and procedures and analyse and interpret the results so as to better pinpoint the nature of the problems.
- Indicate the most suitable treatment for the most prevalent acute and chronic processes, and for the terminally ill.
- Obtain and prepare a patient record that contains all important information and is structured and patient-centred, taking into account all age and gender groups and cultural, social and ethnic factors.
- Perform a general and a system-by-system physical examination appropriate to the patient's age and sex, in complete and systematic way, and a mental evaluation.

## Learning Outcomes

1. Demonstrate basic research skills.
2. Demonstrate, in professional activity, a perspective that is critical, creative and research-oriented.

3. Describe the main pathological situations with treatment of the visual system.
4. Describe the manifestations of illness on the structure and function of the visual system.
5. Design the treatment for the main medical pathologies of the visual system.
6. Design the treatment for the main surgical pathologies of the visual system.
7. Discover affectations of the different structures that make up the visual system.
8. Examine the functional capacity of the visual system.
9. Explain the mechanisms by which illness affects the different components of the visual system.
10. Explain the most probable diagnosis in the main surgical pathologies of the visual system.
11. Express the most probable diagnosis in the main medical pathologies of the visual system.
12. Formulate hypotheses and compile and critically assess information for problem-solving, using the scientific method.
13. Indicate suitable complementary examinations for the diagnosis of major medical pathologies of the visual system.
14. Indicate suitable complementary examinations for the diagnosis of major surgical pathologies of the visual system.
15. Perform a complete, systematic physical examination of the visual system.
16. Perform a suitable physical examination for the main medical pathologies of the visual system.
17. Perform an examination with commonly used devices in clinical ophthalmology.
18. Write a report giving guidance on diagnosing the main medico-surgical pathologies of the visual system.

## Content

Anatomy and physiology of the visual system. Ocular adnexa. Orbit and tear duct. Pathology of the anterior segment of the eye. Lens pathology. Pathology of the uvea. Pathology of the posterior segment of the eye. Glaucoma. Neuroophthalmology: Diseases of the optic pathway, pupillary pathology, chiasmatic and retrochiasmatic pathology. Eye motility. Leukocoria and eye tumors. Ocular traumatology. Refractive defects. Ophthalmological manifestations of systemic diseases.

Theory (24 hours)

Topic 1. Anatomy and physiology of the visual system. Basic concepts.

Topic 2. Ocular adnexa. Eyelids, meibomitis and chalazion. Eyelid tumors. Entropion and ectropion.

Topic 3. Lacrimal system. Dry eye. Acute and chronic dacryocystitis.

Topic 4. Orbital pathology. Thyroid ophthalmopathy. Orbital tumors.

Topic 5. Conjunctiva. Conjunctivitis. Conjunctival tumors.

Topic 6. Cornea and sclera. Epithelial alterations. Keratitis. Corneal transplant. Sclera.

Topic 7. Refractive defects. Concept of hyperopia, myopia and astigmatism. Treatment of refractive defects.

Topic 8. Lens pathology. Cataract: Clinic and treatment.

Topic 9. Glaucoma. Epidemiology. Basic concepts. Clinic and exploration.

Topic 10. Glaucoma. Medical and surgical treatment of the different types of glaucoma. Introduction to the use of the laser in glaucoma.

Topics 11 and 12. Uvea. concept Anterior uveitis. Intermediate uveitis. Posterior uveitis. Panuveitis

Topics 13 and 14. Anatomy and physiology of the retina. The macula. Complementary explorations. Introduction to fluorescein angiography, optical coherence tomography and ocular ultrasound. Semiology of fundus injuries. Causes of decreased visual acuity.

Topic 15. Diabetic retinopathy. Pathophysiology, classification and exploration.

Topic 16. Treatment. Indications for laser photocoagulation. Introduction to vitreo-retinal surgery.

Topic 17. Vascular pathology of the retina. Arterial hypertension. Venous occlusions. Arterial occlusions.

Topic 18. Retinal detachment. Pathophysiology. Classification. Retinal detachment surgery.

Topic 19. Maculopathies. Age-related macular degeneration. Retinal dystrophies. Macular hole. Epiretinal membrane.

Topic 20. Intraocular tumors and leukocoria. Choroidal melanoma. Retinoblastoma. Vascular tumors. Lymphoid tumors.

Topic 21. Diseases of the optic pathway. Optic disc edema. Optic neuritis. Other disorders of the optic nerve.

Topic 22. Pupillary pathology. Chiasmatic and retrochiasmatic pathology.

Topic 23. Oculomotor paralysis. Pathology of extrinsic ocular motility.

Topic 24. Strabismus. Amblyopia. Binocular vision

Topic 25. Eye trauma. Penetrating and perforating. Anterior segment trauma. Posterior segment trauma. Orbital trauma.

Topic 26. Ophthalmological manifestations of systemic diseases.

Classroom practice (PAUL) (8 hours)

PAUL 1: Red eye.

PAUL 2: Loss of visual acuity.

PAUL 3: Ocular adnexa.

PAUL 4: Neuro-ophthalmology.

PAUL 5: Systemic diseases.

PAUL 6: Ocular pharmacology.

PAUL 7: Images of the anterior segment of the eye.

PAUL 8: Images of the posterior segment of the eye.

Advanced clinical simulation practice (1 hour)

## Methodology

This guide describes the framework, contents, methodology and general rules of the subject, in accordance with the current study plan. The final organization of the subject in terms of the number and size of groups, distribution in the calendar and exam dates, specific evaluation criteria and examination review, will be specified in each of the Hospital Teaching Units (UDH), which will explain this through their web pages and on the first day of class for each subject, through the professors responsible for the subject at the UDH.

For the current academic year, the teaching staff designated by the departments as responsible for the subject at college and UDH level are:

Responsible department(s): Surgery

Head of college: José Garcia-Arumí

Responsables UDH:

UDH Sant Pau: Zoraida del Campo Carrasco: zcampo@santpau.cat

UDH Vall D'Hebron: José Garcia-Arumí: jose.garciaarumi@vallhebron.cat

UDH Germans Trias i Pujol: Xavier Valldeperas Belmonte: xvalldeperas.germanstrias@gencat.cat

UDH Parc Taulí: Carlos Cuesta Acero: acero.cuesta@gmail.com

Annotation: Within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

## Activities

| Title | Hours | ECTS | Learning Outcomes |
|---|---|---|---|
| Type: Directed | | | |
| Advanced clinical simulation practices | 1 | 0.04 | 5, 6, 17, 13, 14 |
| Classroom practices | 8 | 0.32 | 10, 9, 11, 12, 13, 14, 18 |
| Theory | 24 | 0.96 | 1, 2, 7, 4, 3, 5, 6, 17, 16, 10, 9, 11, 12, 13, 14, 8, 15, 18 |
| Type: Autonomous | | | |
| Personal study | 14 | 0.56 | 1, 2, 7, 4, 3, 5, 6, 10, 9, 11, 12, 13, 14 |
| Reading articles and reports of interest | 24 | 0.96 | 1, 2, 12 |

## Assessment

Attendance at theory classes, assessed through the attendance control sheet in the same class, where the student must write down his name and NIU, will represent 10% of the total grade. This objective will be fully achieved with attendance at a minimum of 80% of the theory classes, and will not be achieved if this minimum attendance is not met.

The evaluation activities will be scheduled according to calendars:

For the theory part: 2 partial exams (37.5% each)

Partial theory exams will be scheduled with multiple-choice eliminatory items. Each part has the same weight on the final grade. It will not be possible to make the average between both assessments if a minimum score of 4/10 is not obtained in each of the tests, even if the average mark between both is higher than 5. In the event that it is not possible to make the average, the final qualification will correspond to the lowest quantitative value between those obtained in the two tests.

For the practical part: 15%

According to the particularities of each UDH and subject, the seminars can be evaluated continuously. Continuous assessment will be specified in the program of each UDH.

The clinical assessment is the summation of problem solving, presentation of work and classroom practices.

Final qualification

The final grade will be the weighted sum of attendance at theory classes (10%), theoretical knowledge in the form of two partial exams (37.5% each), and attendance and active participation in seminars and advanced clinical simulation practice (15%).

The expression of the same will be a numerical grade with a decimal from 0 to 10. The qualitative qualification will be: suspended, passed, notable, excellent and honors registration.

Final recovery test

The student who has not passed the theory partial exams may take the final make-up exam. The final recovery test will be a theory exam. As aprerequisite to be able to take this exam, the student must have attended the assessment activities established in the subject program, with a minimum of the equivalent of two thirds of the total grade of the subject

Qualification review procedure

Examinations will be reviewed individually with the student, upon written request within the established deadlines.

Students who do not complete the theoretical evaluation tests will be considered as Not evaluated, exhausting their rights to matriculate in the subject.

This subject does not provide the single assessment system

## Assessment Activities

| Title | Weighting | Hours | ECTS | Learning Outcomes |
|---|---|---|---|---|
| Attendance to theory classes | 10% | 0 | 0 | 7, 4, 3, 5, 6, 17, 16, 10, 9, 11, 13, 14, 8, 15, 18 |
| Practices: attendance and active participation in seminars and PSCA | 15% | 0 | 0 | 5, 6, 17, 16, 10, 11, 13, 14, 8, 15, 18 |
| Theory: written assessments using objective tests | 37.5% | 2 | 0.08 | 1, 2, 7, 4, 3, 5, 6, 17, 16, 10, 9, 11, 12, 13, 14, 8, 15, 18 |
| Theory: written assessments using objective tests | 37.5% | 2 | 0.08 | 1, 2, 7, 4, 3, 5, 6, 17, 16, 10, 9, 11, 12, 13, 14, 8, 15, 18 |

## Bibliography

Reference bibliography


- Salmon John F. Kanski Oftalmología clínica: un enfoque sistemático. 9ª ed. Barcelona: Elsevier; 2021. Available at: https://bibcercador.uab.cat/permalink/34CSUC_UAB/1eqfv2p/alma991010357589806709
- Kanski Jack J. Diagnóstico clínico en oftalmología. Madrid: Elsevier; 2007.
- Yanoff M, Duker Jay S, editors. Oftalmología. 5ª ed. Barcelona: Elsevier; 2019.
- American Academy of Ophthalmology. Oftalmología básica para estudiantes de medicina y residentes de atención primaria: complemento. 5ª ed. Barcelona: Elsevier; 2009.

- García Feijoo P, Pablo-Júlvez Luis E. Manual de oftalmología. Barcelona: Elsevier; 2012. Available at: https://bibcercador.uab.cat/permalink/34CSUC_UAB/1gfv7p7/alma991000588929706709
- Jaeger Edward A, Tasman W. Duane's clinical ophthalmology. Philadelphia: Wolters Kluwer, Lippincott Williams & Wilkins; 2009.

Internet resources

- Consejo Argentino de Oftalmología. CAO Biblioteca Imágenes [Internet]. Buenos Aires: Consejo Argentino de Oftalmología; 1999-2021. Available at: https://oftalmologos.org.ar/biblioteca/enlaces/imagenes
- Atlas of ophthalmology: online multimedia database [Internet]. Erlangen: Verlag Online Journals of Ophthalmology; [200- ]. Available at: https://bibcercador.uab.cat/permalink/34CSUC_UAB/avjcib/alma991010766129406709

## Software

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