

Course guide

370023 - PATOL - Pathology

Last modified: 22/03/2024

Unit in charge: Terrassa School of Optics and Optometry
Teaching unit: 731 - OO - Department of Optics and Optometry.

Degree: BACHELOR'S DEGREE IN OPTICS AND OPTOMETRY (Syllabus 2020). (Compulsory subject).

Academic year: 2023 **ECTS Credits:** 6.0 **Languages:** Catalan, Spanish

LECTURER

Coordinating lecturer: Fuste Fusares, Celia

Others: Fuste Fusares, Celia
Molina Fernández, Juan José
Ubia Saez, Sandra
Bove Guri, Marta

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:

CE02. Determine the functions of systems in the human body. Demonstrate knowledge of the principles and foundations of the biological processes involved in the normal functioning of the visual system. Recognise, with macroscopic and microscopic methods, the morphology and structure of the tissues, organs and systems in the human body. Demonstrate knowledge of and describe, macroscopically and microscopically, the structures that make up the visual system and ocular adnexa. Demonstrate knowledge of the structure of the cell, embryonic development and organogenesis. Describe the development of the visual system. Demonstrate knowledge of the microorganisms involved in visual system disorders. Demonstrate knowledge of the properties and functions of the various parts that make up the visual system.

CE13. Understand the factors that limit retinal image quality. Demonstrate knowledge of the spatial and temporal aspects of vision. Carry out psychophysical tests to determine levels of visual perception. Demonstrate knowledge of the functioning of the retina as a receptor of radiant energy. Demonstrate knowledge of the basic models of vision of colour, shape and movement. Demonstrate knowledge of age-related changes in perceptual processes. Measure and interpret psychophysical data obtained from an assessment of visual perception.

CE17. Demonstrate knowledge of manifestations of the pathological processes and mechanisms by which the main human diseases are generated. Recognise the types of mechanisms and physiopathological processes that trigger eye diseases. Demonstrate knowledge of the symptoms of visual disorders and recognise the signs associated with them. Recognise alterations that change normal functioning and trigger pathological processes that affect vision. Detect and assess the main ophthalmological disorders to refer patients to an ophthalmologist for examination and treatment. Demonstrate knowledge of manifestations of systemic diseases at the ocular level. Demonstrate knowledge of epidemiological models of the main pathologies.

CE18. Describe and apply the procedures and indications of clinical examination methods and complementary diagnostic techniques. Demonstrate knowledge of current eye surgery techniques and develop the capacity to carry out eye tests, including during pre- and postoperative examinations. Identify and apply new technologies in the field of optometric clinical practice.

CE19. Demonstrate knowledge of the forms of presentation and general administration routes of drugs. Demonstrate knowledge of the general principles of pharmacokinetics and pharmacodynamics. Demonstrate knowledge of pharmacological actions, collateral effects and drug interactions. Demonstrate knowledge of topical eye preparations, with a focus on the use of drugs that facilitate visual and optometric examination. Demonstrate knowledge of the most common systemic adverse effects after the application of topical eye medication.



Generical:

CG4. Critically reflect on the clinical, scientific, ethical and social issues involved in the professional practice of optometry, understand the scientific foundations of optics and optometry and critically evaluate terminology, clinical trials and research methods related to optics and optometry.

CG8. Plan and carry out research projects that contribute to the production of knowledge in the field of optometry and disseminate this scientific knowledge via the typical communication channels.

CG9. Expand and update one's professional abilities through continuing education.

CG14. Demonstrate knowledge, skills and abilities in patient healthcare.

CG16. Participate effectively in both single-discipline and multidisciplinary work groups on projects related to optometry.

Transversal:

CT3. Teamwork. To be able to work as a member of a multidisciplinary team, either as a base member or undertaking managerial decisions aiming at developing projects from a practical and responsible standpoint, adopting commitments given the available resources

TEACHING METHODOLOGY

LEARNING OBJECTIVES OF THE SUBJECT

STUDY LOAD

Type	Hours	Percentage
Hours medium group	60,0	40.00
Self study	90,0	60.00

Total learning time: 150 h

CONTENTS

1. Eyelid pathology

Description:

Anatomical record
Eyelid tumours
Changes in eyelashes
Allergic diseases
Infectious diseases
Eyelid malposition

Full-or-part-time: 4h 30m

Practical classes: 3h

Laboratory classes: 1h 30m



3. Lacrimal drainage system disorders

Description:

Anatomical record
Tear duct obstruction
Infections of the lacrimal apparatus

Full-or-part-time: 1h 30m
Practical classes: 1h
Laboratory classes: 0h 30m

3. Orbit disorders

Description:

Thyroid orbitopathy
Orbital infections
Orbital tumours
Anophthalmic socket

Full-or-part-time: 3h 30m
Practical classes: 2h 30m
Laboratory classes: 1h

4. Conjunctival disorders

Description:

Conjunctivitis (infectious, allergic, other conjunctivitis)
Conjunctival degeneration
Conjunctival tumours
Subconjunctival hemorrhage

Full-or-part-time: 4h
Practical classes: 3h
Laboratory classes: 1h

5. Corneal diseases

Description:

Infectious, neurotrophic and exposure keratitis
Corneal dystrophies and degenerations
Dry eye
Refractive surgery and complications
Drugs used to explore the anterior pole and refraction

Full-or-part-time: 8h 30m
Practical classes: 7h
Laboratory classes: 1h 30m

6. Diseases of the crystalline lens

Description:

.

Full-or-part-time: 4h

Practical classes: 3h

Laboratory classes: 1h

7. Glaucoma

Description:

Angular structure, drainage of aqueous humour and its relation to intraocular pressure

Diagnosis and medical-surgical treatment of glaucoma

Primary open-angle glaucoma

Normotensive glaucoma

Narrow-angle glaucoma

Secondary glaucomas

Full-or-part-time: 6h

Practical classes: 4h 30m

Laboratory classes: 1h 30m

8. Disease of the episclera and the sclera

Description:

Episcleritis

Autoimmune scleritis and infectious scleritis

Other scleral disorders

Full-or-part-time: 1h 30m

Practical classes: 1h

Laboratory classes: 0h 30m

9. Uveal disorders

Description:

Anterior uveitis, posterior uveitis and its relationship with systemic pathologies

Endophthalmitis, panophthalmitis

Uveal tumours

Uveal trauma

Full-or-part-time: 3h

Practical classes: 2h

Laboratory classes: 1h

10. Disorders of the vitreous and the retina

Description:

Degeneration, haemorrhages and trauma of the vitreous
Retinal periphery. Retinal detachment and underlying lesions
Retinal vasculopathy and its relation to cardiovascular, endocrinological and haematological diseases
Acquired maculopathy
Macular degeneration associated with age
Choroidal changes
Hereditary fundus dystrophies

Full-or-part-time: 13h

Practical classes: 10h 30m

Laboratory classes: 2h 30m

11. Neuro-ophthalmology

Description:

Optic nerve disorders (vascular, tumoral, degenerative and nutritional alterations)
Neurosensory disorder
Disorders of the oculomotor nerves
Pupillary and accommodative disorders
Chiasmatic and retrochiasmatic diseases

Full-or-part-time: 7h

Practical classes: 5h

Laboratory classes: 2h

12. Paediatric ophthalmology

Description:

Assessment and detection of abnormalities in infants' eyes
Guidelines for specialist referral
Infections and inflammations in paediatric patients
Retinopathy of prematurity

Full-or-part-time: 3h 30m

Practical classes: 2h 30m

Laboratory classes: 1h

ACTIVITIES

Assignment: resolution of clinical cases

Description:

Completion of a written assignment in which one or several clinical cases are presented. Students must reason (using the data provided and the knowledge gained in the course) and establish the pathology of the patient in question, and describe possible treatments.

Full-or-part-time: 90h

Self study: 90h



Full-or-part-time: 15h
Laboratory classes: 15h

European diploma competencies

GRADING SYSTEM

BIBLIOGRAPHY

Basic:

- Kanski, Jack J; Bowling, Brad. Kanski oftalmología clínica: un enfoque sistemático. 8ª ed. Barcelona [etc.]: Elsevier, cop. 2016. ISBN 9788491130031.