26815 - Ocular Pathology and Pharmacology

Syllabus Information

Academic Year: 2018/19
Subject: 26815 - Ocular Pathology and Pharmacology
Faculty / School: 100 - Facultad de Ciencias
Degree: 297 - Degree in Optics and Optometry
ECTS: 10.0
Year: 3
Semester: Annual
Subject Type: Compulsory
Module: ---

1.General information

1.1.Aims of the course

1.2.Context and importance of this course in the degree

1.3.Recommendations to take this course

2.Learning goals

2.1.Competences

2.2.Learning goals

2.3.Importance of learning goals

3.Assessment (1st and 2nd call)

3.1.Assessment tasks (description of tasks, marking system and assessment criteria)

4.Methodology, learning tasks, syllabus and resources

4.1.Methodological overview

General methodological presentation

The learning process designed for this subject is based on the following:

1. Classroom instruction (10 ECTS credits, 100 hours)

1.1 Training activity 1 (Large groups): Basic knowledge acquisition in ocular pathology and recognition of the significance of ocular conditions with particular attention to those (pathologies) associated with old age.

* *Methodology:*

- Introductory participative master (Theoretical Programme, 40 hours, **4 ECTS credits**)

1.2 Training activity 2 (small groups/subgroups): Practical clinical experience related to assessment and treatment of ocular pathologies.

** Methodology:*

- Internship in hospital centre, external curricular practices. Training with real patients (40 hours, **4 ECTS credits**)

- Case and problem solving. Seminars (10 hours, **1 ECTS credit**)

- Laboratory practice. Workhops. Seminars. (10 hours, **1 ECTS credit**)

2. Non-presential teaching (10 ECTS credits, 150 hours)

It is the independent student's work devoted to the theoretical programme and the preparation of seminars and workshops both before and after they take place.

In the subject ?Principios de Patología y Farmacología Ocular? (Principles of Ocular Pathology and Pharmacology), Moodle (Anillo Digital Docente), which has been arranged in order to complement classroom instruction, is given great weight.

It consists of:

- General information about the subject stating the Programme, Objectives and Evaluation Criteria.

- Documents enabling the preparation of Seminars, Workshops and Practice. These documents will allow the assessment of themselves during the training activities mentioned.

Development and presentation of a monitored work

- Library: with clinical and surgical procedures.

- Practical clinical cases complementing theoretical teaching.

- Questionnaire of exam possible questions to help the students with their preparation.

4.2.Learning tasks

The programme offered to students in order to help them achieve the results expected includes in the syllabus

4.3.Syllabus

1: Theoretical Programme in Ocular Pathology and Pharmacology.

Unit I. Ocular Pharmacology

- Topic 1. Pharmacology concept. General cycle of medications.

- Topic 2. Pharmacokinetics. Medication uptake and routes of administration.

- Topic 3. Pharmacokinetics. Drug metabolism.

- Topic 4. Pharmacodynamics. Action, effect and mechanism of action.

- Topic 5. Pharmacodynamics. Pharmacological interactions. Synergies and antagonisms.

- Topic 6. Pharmaceutics. Factors influencing bioavailability.

- Topic 7. Pharmaceutics. Preparations for ophthalmological use.

- Topic 8: Pharmaceutics. Tear substitutes.

Unit II. Basic Unit

- Topic 9. Ophthalmological clinical history. Ophthalmological semiology.

- Topic 10. Basic Clinical Ophthalmological Examination.

- Topic 11. Ophthalmological Examination Techniques.

Unit III. Preventive ophthalmology.

- Topic 12. Primary Open-Angle Glaucoma.

- Topic 13. Vascular retinopathy.

- Topic 14. Intraocular tumors.

Unit IV. Decrease in Visual Acuity

- Topic 15. Lens pathology.

- Topic 16. Intermediate uveitis.

- Topic 17. Posterior uveitis. Endophthalmitis.

- Topic 18. Papilla edema.

- Topic 19. Anterior and posterior optic neuropathy.

- Topic 20. Optic chiasm pathology and retrochiasmatic routes.

- Topic 21. Age-Related Macular Degeneration.

- Topic 22. Central retina degeneration.

- Topic 23. Retinal vascular occlusion.

- Topic 24. Vitro-Retinal Hemorrhage. Retinal Detachment (Peripheral Degeneration of the Retina).

Unit V. Differential diagnosis of red eye

- Topic 25. Eyelid pathology. Inflammatory. Tumoral. Alterations in form and position.

- Topic 26. Dry Eye Syndrome. Concept. Etiopathogenesis. Classification.

- Topic 27. Dry Eye Syndrome. Clinical manifestations. Diagnosis guidance.

- Topic 28. Pathology of the conjunctiva I: Conjunctivitis.

- Topic 29. Pathology of the conjunctiva II: Scleral tumors.

- Topic 30. Cornea pathology I: Keratitis.

- Topic 31. Cornea pathology II: Dystrophy and degeneration.

- Topic 32. Acute glaucoma attack.

- Topic 33. Anterior uveitis.

Unit VI. Ocular traumatology.

- Topic 34. Anterior and posterior segment traumatic syndrome.

Unit VII. Advanced Neuro-Ophthalmology

- Topic 35. Pupil Route.

- Topic 36. Nystagmus. Facial spasm. Headeache.

- Topic 37. Paralysis of cranial nerves.

Unit VIII. Tear duct and ocular adnexa pahtology.

- Topic 38. Lacrimal drainage system pathology.

- Topic 39. Orbital pathology. Thyroid ophthalmopathy.

2:Programme of seminars in Ocular Pathology and Pharmacology.

- **Seminar 1:** Fluorescein angiography. Basics and fundamentals.
- **Seminar 2:** special explorations of the Anterior segment: OCT
- **Seminar 3:** Visual field evaluation.
- **Seminar 4**: diagnostic protocols in Glaucomatous disease.
- **Seminar 5:** Visual acuity loss
- **Seminar 6:** Meibomian gland dysfunction syndrome
- **Seminar 7**: Visual function exploration of neuro-ophthalmological diseases.
- **Seminar 8:** electrophysiology of the visual system
- **Seminar 9: The image in ophthalmology**
- **Seminar 10: Opthalmovideo**

3:Workshop programme of ocular pathologies and pharmacology.

- **Workshop 1**: Programme of Glaucoma early detection. Optometric approach.
- **Workshop 2**: Early detection protocol of vascular retinopathies. Telemedicine.
- **Workshop 3:** Optometric solutions and applications in ophthalmological pathologies.

- **Workshop 4:** Diagnostic algorithm in ocular Surface diseases. Differential diagnosis of Red-Eye.

4: Hospital internship

This will be carried out in the Miguel Servet University Hospital and Lozano Blesa University Hospital.

4.4.Course planning and calendar

Academic calendar of the subject:

In the subject's presentation, a calendar with the subject's training activities will be provided, as well as the setting of groups adjusted to the schedule arranged by the degree coordinator. This calendar will be available for students on Moddle 2 (ADD).

4.5.Bibliography and recommended resources

BB García Feijóo, Julián. Manual de oftalmología / Julián García-Feijóo, Luis E. Pablo-Júlvez ; [colaboradores, Emilio A al.] Barcelona : Elsevier, D.L. 2012

BB Kanski, Jack J.. Oftalmología clínica / Jack J. Kanski ; fotógrafos, Irina Gout, Kulwant Sehmi, Anne Bolton ; ilustrado Phil Sidaway ; [revisión científica, Juan Antonio Durán de la Colina] . - 6ª ed. Ámsterdam ; Barcelona ; Madrid [etc.] :

BC Atlas de oftalmología clínica / editado por David J. Spalton, Roger A. Hitchings, Paul A. Hunter ; [revisión, Miguel Án 3ª ed. Madrid ; Barcelona [etc.] : Elsevier, cop. 2006

BC Duane, Thomas D.. Duane's Ophthalmology on CD-ROM [recurso electrónico] / edited by William Tasman and Edwa ed. 2006 ed.

BC Duane's Ophthalmology [recurso electrónico] / editors, William Tasman, Edward A. Jaeger . 12th ed. 12th ed.

BC The Wills Eye Hospital atlas of clinical ophthalmology / edited by William Tasman, Edward A. Jaeger. - 2nd ed. Phila Lippincott Williams & Wilkins, cop. 2001