Universidad Zaragoza

Academic Year/course: 2022/23

26808 - Optometry Laboratory

Syllabus Information

Academic Year: 2022/23
Subject: 26808 - Optometry Laboratory
Faculty / School: 100 - Facultad de Ciencias
Degree: 297 - Degree in Optics and Optometry
ECTS: 12.0
Year: 2
Semester: Annual
Subject Type: Compulsory
Module:

1. General information

2. Learning goals

3. Assessment (1st and 2nd call)

4. Methodology, learning tasks, syllabus and resources

4.1. Methodological overview

GENERAL METHODOLOGICAL PRESENTATION

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

The general methodology of the subject is determined by the organization of matter within the plan of Optometry Degree studies. The learning of this subject it is structured in: Optometry I, Optometry II and Optometry Laboratory.

The first two subjects, Optometry I and Optometry II, focus on the theoretical and conceptual aspects and the Optometry Laboratory is fully oriented in practical learning.

4.2. Learning tasks

The content of the educational programming that will be needed to reach the desired outcomes includes the following activities:

1: Training activity I (2 ECTS). To acquire knowledge on the practical aspects of Optometry. The methodology is based on conferences/seminars addressed to the whole group of students. This activity is complemented with personalized or in small groups teaching.

2: Training activity II (2 ECTS). To acquire confidence in handling patients in the clinic and to develop a comprehensive optometric examination.

The methodology is based on practice skills training in the laboratory through small groups that can be two or three people allowing personalized teaching. Before and after the laboratory session each student must perform a series of questions about practical aspects of this practice. Additionally, each group has to prepare a laboratory report.

Moodle will be as a part of the teaching component. Moodle will be used to disseminate teaching materials and host forums.

4.3. Syllabus

1. Understand and make use of the material of the laboratory. Measurement of visual acuity (VA) under different conditions. Evaluation of Contrast Sensitivity Function (CSF).

2. Measurement of monocular amplitude of accommodation and accommodative flexibility. Discussion of the diagnostic

examination process with emphasis on the patient history interview.

3. Objective examination of refractive errors I: 1) Introduction to retinoscopy (spherical and cylindrical errors) and 2) Autorefractometer. Acquire skills to neutralize refractive errors using the retinoscope.

4. Objective examination of refractive errors II: 1) Introduction to retinoscopy (spherical and cylindrical errors) and 2) Autorefractometer. Acquire skills to neutralize refractive errors using the retinoscope.

5. Subjective examination of refractive errors I: 1) Determination of the spherical power (Fogging: Maximum plus power for best visual acuity (MPMAV)) and 2) Determination of the cylindrical axis and the cylindrical power for the patient (Clock dial test and Jackson Cross Cylinder (JCC)).

6. Subjective examination II: Bi-ocular balancing: for VA equal and unequal between both eyes. Binocular balancing

7. Revision of all studied techniques. Discussion of optometric examination and patient history interview.

8. Exam

9. Slit-lamp I: Direct illumination techniques (diffuse illumination, tangential illumination and specular reflection). Introduction of the methods for the diagnosis of dry eye: tear meniscus height measurement, lacrimal secretion (Schirmer?s test) and the stability of lacrimal film by tear film break up time (BUT) with fluorescein, noninvasive tear break up time (NIBUT).

10. Slit-lamp II: Indirect illumination techniques

11. Evaluation of the visual field and retinal integrity: Campimetry. Direct ophthalmoscopy. Retinography. Measurement of the intraocular pressure: non-invasive tonometry

12. Binocular vision and space perception: fusion, diplopia, suppression, and stereopsis.

13. Ocular motility and pupillary response. Measurements of deviation with objective tests (Cover test). Revision of all studied techniques

14. Revision of all studied techniques

15. Exam

16. Binocular vision: relationship between convergence-accommodation. Measurement of binocular amplitude of accommodation and accommodative flexibility. Evaluation of accommodative response. Revision of the bi-ocular and binocular balancing (subjective refraction).

17. Evaluation of the near point of convergence (PPC). Measurements of deviation with subjective tests (prisms oo Maddox Double Rod Test). Measurements of relative vergences. Evaluation of negative relative accommodation (NRA) and positive relative accommodation (PRA). Calculate of accommodative convergence/accommodation (AC/A) ratio.

18. Prescription and addition

19. Practice with real patients with emphasis on the objective and subjective refraction.

20. Revision of all studied techniques.

21. Revision of all studied techniques.

22. Exam

4.4. Course planning and calendar

Schedule sessions and presentation of works

The dates of beginning and end of the teaching activities will be provided by the University or by the Faculty of Sciences.

The course consists of 10 lectures divided into sessions of a 2-hour during all year and a 4?5- hour laboratory session each week (20 sessions).

Before and after the laboratory session each student must perform a series of questions about practical aspects of this practice (via Moodle).

4.5. Bibliography and recommended resources

http://psfunizar10.unizar.es/br13/egAsignaturas.php?codigo=26808