

Academic Year/course: 2022/23

## 26818 - Optical Technology II

### Syllabus Information

**Academic Year:** 2022/23

**Subject:** 26818 - Optical Technology II

**Faculty / School:** 100 - Facultad de Ciencias

**Degree:** 297 - Degree in Optics and Optometry

**ECTS:** 6.0

**Year:** 3

**Semester:** First semester

**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

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

- Participatory master classes in large groups and seminars.
- Laboratory practices in a small group but carried out individually or in pairs. These practices will be carried out either in the assembly workshop or in the computer room.
- Individual exercises and quizzes via Moodle.
- Individualized tutorials or specific guided work.

#### 4.2. Learning tasks

This is a 6 ECTS course organized as follows: actividades...

**Acquisition of basic knowledge of bifocal and multifocal lenses. (1 ECTS)**

**Assembly of lenses in slotted, airless and sports glasses with adaptation to the patient's physiognomy (2 ECTS).**

**Knowledge of the ophthalmic lens market and management of price books (0.5 ECTS)**

**Refractive characterization of bifocal and multifocal ophthalmic lenses (0.5 ECTS)**

**Putting order and inventory of workshop material (0.5 ECTS).**

**Resolution of practical cases (0.5 ECTS).**

**Contact with professionals in the ophthalmic industry (1 ECTS).**

**These activities are distributed as follows in the course schedule:**

## **THEORY**

**Topic 1. Monofocal lenses review.**

**Topic 2. Ophthalmic prisms and prismatic effect.**

**Topic 3. Bifocal lenses.**

**Topic 4. Progressive lenses.**

**Topic 5. Adaptation of monofocal lenses.**

## **PRACTICES**

Practice 1. Frontofocometer revision. Reading and measurement of spherical and spherocylindrical lenses.

Practice 2. Put in order. Workshop tools. Types of bevels review, manual beveler. Start with mounting single vision lenses in full metal rim frames.

Practice 3: Put in order. Workshop tools. Mounting review of single vision lenses in full rim paste frames.

Practice 4. Bifocal and progressive frontofocometer power measurement. Reading frame and centering, bifocal and progressive frame in full frame glasses. Monofocal ophthalmic lens rates.

Practice 5. Bifocals and progressives in manual slotted glasses. Progressive and bifocal rates.

Practice 6. Control practice

Practice 7. Review: vertex distance, facial and pantoscopic angle. Mounting adjustment. Prismatic effect.

Practice 8. Review slotted glass. drill practice

Practice 9. Assembly of glasses to the air: Silhouette type. Automatic drill and slot

Practice 10. Review effects and prismatic problems. Silhouette type.

Practice 11. Control practice

Practice 12. PRATS

The teaching and evaluation activities will be carried out in person unless, for health situation, the provisions issued by the competent authorities and by the University of Zaragoza require that they be carried out telematically or semi-telematically with reduced rotation capacity.

## **4.3. Syllabus**

The course will address the following topics:

**Topic 1. Review of monofocal lenses.**

**Topic 2. Ophthalmic prisms and prismatic effect.**

**Topic 3. Bifocal lenses.**

**Topic 4. Progressive lenses.**

**Topic 5. Adaptation of monofocal lenses.**

## **4.4. Course planning and calendar**

**Calendar of face-to-face sessions and presentation of works**

**1 ECTS. The theoretical part consists of 12 lecture hours in which the theoretical foundations necessary for the practices carried out in the laboratory are explained.**

**5 ECTS. The practical part is repeated in 12 sessions of four hours per week in the first semester. Weekly deliveries of exercises will be scheduled via Moodle that will be presented in the format and deadline indicated.**

**Information available on the web page of the subject, hosted on the Virtual Teaching Campus of the University of Zaragoza (<http://moodle.unizar.es>)**

#### **4.5. Bibliography and recommended resources**

<http://psfunizar10.unizar.es/br13/egAsignaturas.php?codigo=26818>