

**COURSE DATA****Data Subject**

<b>Code</b>	43875
<b>Name</b>	Optometric care before and after surgery
<b>Cycle</b>	Master's degree
<b>ECTS Credits</b>	3.0
<b>Academic year</b>	2022 - 2023

**Study (s)**

<b>Degree</b>	<b>Center</b>	<b>Acad. year</b>	<b>Period</b>
2175 - M.U. en Optometría Avanzada y Ciencias de la Visión 13-V.2	Faculty of Physics	1	First term

**Subject-matter**

<b>Degree</b>	<b>Subject-matter</b>	<b>Character</b>
2175 - M.U. en Optometría Avanzada y Ciencias de la Visión 13-V.2	11 - Optometric care before and after	Optional

**Coordination**

<b>Name</b>	<b>Department</b>
ALBARRAN DIEGO, CESAR ANTONIO	280 - Optics and Optometry and Vision Sciences

**SUMMARY**

Currently the optometrist does not work exclusively in optical establishments, and it is already quite common to find optometrists working in ophthalmology clinics or hospital ophthalmology services, both public and private. For this reason, it is important that the Optician-Optometrist receive training, at least basic, on the optometric evaluation of patients who are going to undergo some type of ocular intervention, especially if it changes the ocular refractive state.

On the other hand, in their primary visual care work, regardless of whether they carry out their profession in an optical establishment or in a hospital environment, the Optician-Optometrist will collaborate in the follow-up of patients who have undergone cataract or refractive surgery, among others. For this reason, he must have knowledge about the postoperative evolution of these conditions, differentiating the normal evolution from an abnormal one that may indicate a complication that should be attended by the ophthalmologist. In addition, some ocular interventions cause some optometric tests to not be as reliable as in non-operated patients, so the optometrist must be aware of this so as not to make mistakes in determining the refractive status of these patients.

To do this, this subject will address the different techniques and procedures of refractive and cataract surgery, advanced instrumentation for pre- and post-surgical evaluation and how to perform a pre- and



post-operative examination of the refractive surgery patient.

## PREVIOUS KNOWLEDGE

### Relationship to other subjects of the same degree

There are no specified enrollment restrictions with other subjects of the curriculum.

### Other requirements

The student is expected to have clear knowledge of basic refraction (use of instrumentation and refraction techniques), use of the slit lamp, notions of corneal topography and aberrometry. In some subjects it will be advisable to remember basic concepts of geometrical optics (power of compound systems) and physical optics (diffraction and interferences).

## OUTCOMES

### 2175 - M.U. en Optometría Avanzada y Ciencias de la Visión 13-V.2

- Students should apply acquired knowledge to solve problems in unfamiliar contexts within their field of study, including multidisciplinary scenarios.
- Students should be able to integrate knowledge and address the complexity of making informed judgments based on incomplete or limited information, including reflections on the social and ethical responsibilities associated with the application of their knowledge and judgments.
- Students should communicate conclusions and underlying knowledge clearly and unambiguously to both specialized and non-specialized audiences.
- Students should demonstrate self-directed learning skills for continued academic growth.
- Students should possess and understand foundational knowledge that enables original thinking and research in the field.
- Know how to work in multidisciplinary teams reproducing real contexts and contributing and coordinating their own knowledge with that of other branches and participants.
- Participate in, lead and coordinate debates and discussions, be able to summarize them and extract the most relevant conclusions accepted by the majority.
- Use different presentation formats (oral, written, slide presentations, boards, etc.) to communicate knowledge, proposals and positions.
- Proyectar sobre problemas concretos sus conocimientos y saber resumir y extraer los argumentos y las conclusiones más relevantes para su resolución.
- Tener capacidad de análisis crítico de la información especializada en los ámbitos propios del máster.



- Tener un compromiso ético y responsabilidad social, tanto en lo que compete a la componente asistencial ligada a la profesión de óptico-optometrista como a lo que respecta a la investigación clínica.
- Tener capacidad de trabajo en equipos multidisciplinares en el área de las ciencias de la salud.
- Conocer la legislación aplicable en el ejercicio profesional, con especial atención a las materias de de igualdad de género entre hombre y mujeres, derechos humanos, solidaridad, protección del medio ambiente y fomento de la cultura de la paz.

## LEARNING OUTCOMES

To know the different types of refractive surgery, both corneal and intraocular.

To know the optometric conditions for each type of surgery.

To learn a deepen knowledge about the optometric aspects of cataract and its surgical solution.

To know different designs of intraocular lenses.

To have notions about calculating the power of a lens to be implanted in a refractive or cataract procedure.

To know which refractive techniques are valid/reliable depending on the type of surgical intervention that has been performed on a subject, and how to measure the refractive state (subjective refraction) correctly in each case.

## DESCRIPTION OF CONTENTS

### 1. Introduction to refractive surgery.

Definition and types of refractive surgery.

Corneal refractive surgery techniques.

Intraocular refractive surgery techniques.

### 2. Cataract surgery

Visual consequences of cataract

Cataract surgical solution. Cataract as refractive surgery

Types of intraocular lenses

**3. Instrumentation and techniques for pre- and post-surgical evaluation**

Instruments for optometric evaluation in refractive surgery

Preoperative evaluation

Postoperative evaluation

Complications

**WORKLOAD**

ACTIVITY	Hours	% To be attended
Theory classes	12,00	100
Seminars	6,00	100
Laboratory practices	6,00	100
Preparation of evaluation activities	10,00	0
Preparing lectures	23,00	0
Preparation of practical classes and problem	12,00	0
<b>TOTAL</b>	<b>69,00</b>	

**TEACHING METHODOLOGY**

Theoretical classes: face-to-face or semi-face-to-face classes in which the theoretical contents of the subject will be taught. The use of audiovisual methodologies will be reinforced, which more clearly exemplify the theoretical content and the examples to be developed.

Small group theoretical sessions (Seminars): these are sessions dedicated to group work by students, with proposals for real cases that must be analyzed and studied by the group. The interactivity of the group will be sought through oral presentations and examples in the classroom, accounting for continuous evaluation. In the semi-face-to-face or online mode, students will carry out these sessions through the mechanisms offered by the virtual classroom for an interconnection to several bands.

Practical classes: these are face-to-face classes in which the theoretical concepts will be developed in a practical way. These small group classes will be held with real patients from the optometric clinic.

Tutorials: individual or in small groups, which will be carried out in person or online through the mechanisms offered by the Virtual Classroom of the University of Valencia.

**EVALUATION**

The evaluation of the subject is carried out with the following criteria (out of 100 points):



a) 60 points: a written test, both theoretical and practical questions. This test may consist of a series of multiple-choice questions and/or short questions.

b) 40 points: the personal work of the student (participation in seminars and practices, resolution of exercises, tutored work, etc.) delivered during the course.

In total, the necessary qualification to pass the subject will be 50 points. It will be required to have a minimum of 30 points in the first apartment and 20 in the second.

## REFERENCES

### Basic

- Montés-Micó R. Optometría: Aspectos Avanzados y Consideraciones Especiales. Elsevier. 2011. ISBN: 978-84-8086-890-7
- Refractive Surgery. Dimitri Azar. Mosby-Elsevier, 2007. ISBN: 9780323035996.

### Additional

- Manual de biometría ocular y cálculo de lentes intraoculares. José Antonio Calvache Anaya. Saera, 2017. ISBN: 9788494476013.
- The Slit Lamp. Marcus-Matthias Gellrich. Springer, 2014. ISBN: 9783642397929
- Corneal Topography. Aylin Kiliç; Cynthia J Roberts. Kugler Publications, 2013. ISBN: 9789062992300.
- Manual de tomografía de coherencia óptica. Roberto Gallego Pinazo; José Fernando Arévalo; Rosa Dolz-Marco; Lihteh Wu. Elsevier, 2021. ISBN: 9788491138297.