

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

<b>Code</b>	34297
<b>Name</b>	Optometry I
<b>Cycle</b>	Grade
<b>ECTS Credits</b>	4.5
<b>Academic year</b>	2022 - 2023

**Study (s)**

<b>Degree</b>	<b>Center</b>	<b>Acad. year</b>	<b>Period</b>
1207 - Degree in Optics and Optometry	Faculty of Physics	2	First term

**Subject-matter**

<b>Degree</b>	<b>Subject-matter</b>	<b>Character</b>
1207 - Degree in Optics and Optometry	12 - Optometry	Obligatory

**Coordination**

<b>Name</b>	<b>Department</b>
CERVIÑO EXPOSITO, ALEJANDRO	280 - Optics and Optometry and Vision Sciences

**SUMMARY**

The contents of this course are related to knowledge-oriented end to occupation, in addition to serving as the foundation and basis for the subsequent development of other subjects of Optometry matter to be studied later.

They provide students with the fundamentals of Optometry as a clinical discipline, the knowledge required for the understanding of refractive disorders and their clinical implications, as well as the basics of detection and quantification.

The ocular refractive state conditions the visual system functionality and is based on the relationship between the various components and their correct refractive eye development and interaction. Since the aim of the course to provide students with the fundamentals of optometry and visual system refractive assessment, integrating new knowledge with those obtained previously in subjects previously studied and its management and its alternatives optometric correction, provide the skills necessary for the management of patients with visual defects, including the basis for the detection and quantification techniques refractive error, and reasoning skills and clinical judgment allowing the performance of diagnosis, prognosis and appropriate treatment planning.



## 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 must master the concepts taught in the subjects of Human and Ocular Anatomy, Ocular and Human Physiology and Physiological Optics

## OUTCOMES

### 1207 - Degree in Optics and Optometry

- To have and to understand the fundamentals of Optometry for its correct clinical and healthcare application.
- Knowing how to apply the knowledge acquired to professional activity, knowing how to solve problems and develop and defend arguments.
- Being able to gather and interpret relevant data to make judgments.
- Being able to transmit information, ideas, problems and solutions to both a specialized and non-specialized audience.
- Development of learning skills necessary to undertake further studies with a high degree of autonomy.
- To know the applicable legislation in professional practice, with special attention to matters of gender equality between men and women, human rights, solidarity, sustainability, protection of the environment and promotion of the culture of peace.
- To develop communication skills, data recording and medical record making.
- To acquire the skills for the interpretation and clinical judgment of the results of visual tests, to establish the most appropriate diagnosis and treatment.
- To acquire skills in the instrumental tests for the evaluation of visual functions and eye health. To know how to take a complete anamnesis.
- Ability to measure, interpret and treat refractive and binocular errors.
- To know the sensory and oculomotor mechanisms of binocular vision.
- To know the principles and to have the skills to measure, interpret, and treat accommodative and binocular vision abnormalities.
- Ability to prescribe, control and monitor optical corrections.
- To design, to apply and to control visual therapy programs. To know the current techniques of eye surgery and to have the ability to perform the eye tests included in the pre and post-operative exam.



- To know, to apply and to interpret instrumental tests related to visual health problems.
- To apply the clinical procedures associated with the adaptation of contact lenses to different refractive and ocular dysfunctions.
- To know the modifications linked to aging in perceptual processes.
- To know the differences in treatment and refractive diagnosis of the pediatric patient.
- To acquire the ability to examine, to diagnose and to treat visual abnormalities with special emphasis on differential diagnosis.
- To acquire the clinical skills necessary for the examination and treatment of patients.
- To know the nature and organization of the different types of clinical care.
- To know the different protocols applied to patients.
- To know and to apply visual screening techniques applied to different populations.
- To know and to apply new technologies in the field of optometric clinic.
- Ability to act as a primary visual care agent.
- To know the legal and psychosocial aspects of the profession.
- To know the fundamentals and techniques of health education and the main generic health programs to which the optometrist must contribute from their scope of action.
- To identify and to analyze environmental and occupational risk factors that can cause visual problems.
- To know the applicable legislation in professional practice, with special attention to matters of gender equality between men and women, human rights, solidarity, protection of the environment and promotion of the culture of peace.

## LEARNING OUTCOMES

English version is not available

## DESCRIPTION OF CONTENTS

### 1. Introduction to the refractive state.

Genesis and Epidemiology of refractive errors. Classification and prevalence. Age and refractive error. Emmetropization. Accommodation and Presbyopia

### 2. Abnormalities



Spherical ametropia. Definition, prevalence, aetiology and classification of myopia. Examination, diagnosis and treatment of myopia. Definition, prevalence, aetiology and classification of hyperopia. Definition, prevalence, aetiology and classification of Astigmatism. Vision of the eye with astigmatism.

### 3. Refractive Examination

Visual Acuity. Optotypes. Monocular refractive objective: Keratometry. Retinoscopy and autorefraction. Monocular and binocular subjective refraction

## WORKLOAD

ACTIVITY	Hours	% To be attended
Theory classes	30,00	100
Tutorials	15,00	100
Development of group work	5,00	0
Development of individual work	15,00	0
Study and independent work	15,00	0
Readings supplementary material	10,00	0
Preparation of evaluation activities	10,00	0
Preparing lectures	5,00	0
Resolution of case studies	7,50	0
<b>TOTAL</b>	<b>112,50</b>	

## TEACHING METHODOLOGY

### Live Activities

Lectures:-campus classes (with possible arrangements also include blended or face) which will be taught the theoretical content of the material. They reinforce the use of audiovisual methods, which exemplify more clearly the theoretical and examples to develop.

Small Group Theory sessions: These sessions devoted to student group work with real cases proposals must be analyzed and studied by the group. Interactivity will be sought through group presentations and classroom examples, made in continuous assessment.

### Student work

- Theoretical study
- Development of work and issues raised in class



- Individual tutorials

## EVALUATION

The evaluation of the subject is made to the following criteria.

- a) 90% A written test with theoretical and practical issues. This test may consist of a series of multiple choice questions and / or short questions.
- b) 10% personal work (solving exercises, tutored, etc..) delivered during the course can be considered in the final grade of the course.

The rating required to pass the course will be 50 points (out of 100 points) in the written test.

## REFERENCES

### Basic

- Referencia b1: Montes-Micó R. Optometría: Principios Básicos y Aplicación Clínica. Elsevier. 2011. ISBN: 978-84-8086-822-8
- Referencia b2: Montés-Micó R. Optometría: Aspectos Avanzados y Consideraciones Especiales. Elsevier. 2011. ISBN: 978-84-8086-890-7
- Referencia b3: Furlan W., García J., Muñoz L.: Fundamentos de Optometría. Refracción ocular. (2009)
- Referencia b4: Rosenfield M, Logan N. Optometry. Science, Techniques and Clinical Management. 2nd Edition. Butterworth-Heinemann-Elsevier. 2009
- Referencia b5: Benjamin W.J. Borishs clinical refraction. (2008)
- Referencia b6: Grosvenor T. Primary Care Optometry. Butterworth-Heinemann. 5th edition. (2006)