

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

<b>Code</b>	34299
<b>Name</b>	Optometry II
<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. Period</b>
1207 - Degree in Optics and Optometry	Faculty of Physics	2 Second 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>
GENE SAMPEDRO, ANDRES	280 - Optics and Optometry and Vision Sciences

**SUMMARY**

The contents of this course are related to knowledge-oriented professional finalists. As clinical application provide students with the knowledge necessary for understanding the changes of accommodation, binocular vision, with the adaptation of vision to different environments.

The binocular visual system is based on the proper maintenance of various structures and the optimal interaction of various components involved in vision such as accommodation and convergence.

The aim being to provide students with the knowledge of optometric analysis of binocular vision with no strabismic binocular anomalies and accommodating and their solutions, are provided the skills necessary to manage patients who suffer these disorders, including ocular examination techniques and visual and reasoning skills and clinical trial that permit the realization of diagnosis and appropriate treatment planning by means of lenses in eyeglasses, contact lenses, vision therapy and / or visual ergonomics tips.



## PREVIOUS KNOWLEDGE

### Relationship to other subjects of the same degree

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

### Other requirements

Students who pursue this course is recommended to have acquired prior knowledge of Optometry I, the basis of Physiological Optics and Vision Psychophysics

## 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 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.
- 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 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.

## LEARNING OUTCOMES

Learning outcomes can be summarized as the student is able to:

- Measure, interpret and deal with technical optometric accommodative anomalies and binocular vision.
- Use clinical protocols and instrumental in the exploration partner.
- Examine, diagnose and treat visual abnormalities with emphasis on differential diagnosis.
- Apply new technologies in the field of optometric clinic.
- Demonstrated ability to work as a team, knowing the terminology of the profession and develop a convincing job.

## DESCRIPTION OF CONTENTS

### 1. SCIENTIFIC RESEARCH OR EVALUATION

Introduction to binocular Optometry.  
Study of sensory state.  
Study of the accommodation.  
Vergencial state study.  
Study of the interaction convergence accommodation.  
Study oculomotor and motility.

### 2. DIAGNOSIS AND ANALYSIS

Case Analysis: procedures.  
Accommodative dysfunctions.  
Vergence dysfunctions.  
Other secondary dysfunctions

**3. TREATMENT OR TREATMENT OPTIONS**

Treatment or treatment options

**WORKLOAD**

ACTIVITY	Hours	% To be attended
Theory classes	30,00	100
Tutorials	15,00	100
Attendance at events and external activities	5,00	0
Development of group work	7,50	0
Development of individual work	10,00	0
Study and independent work	12,50	0
Readings supplementary material	5,00	0
Preparation of evaluation activities	10,00	0
Preparing lectures	10,00	0
Resolution of case studies	5,00	0
Resolution of online questionnaires	2,50	0
<b>TOTAL</b>	<b>112,50</b>	

**TEACHING METHODOLOGY**

The methodology of teaching this subject using the expository lesson with classroom activities to teach the skills necessary to achieve the competencies described.

Student participation is encouraged in seminars and supervised work, serving as a complement to the knowledge imparted in the classroom. All this is accompanied by the use of the network through the Virtual Classroom and the tools needed to talk with students and provide basic information and / or complementary to the acquisition of the skills described.

The distribution of the activities described are those that enable the student acquire the skills set. The training activities include:

Lectures, where he taught the fundamentals of the subject.



Class of problems, discuss and solve specific problems related to the subject both individually and in groups.

Seminars and supervised work in this activity are analyzed and discussed specific issues in the field, actively participating students, both individually and in groups.

Tutorials, thus allowing the student-teacher and provides support and advice in the various activities they have to develop the student. Can be targeted more specifically to the evaluation.

Training activities include both group activities and activities individualized.

This methodology ensures that students acquire the competencies identified.

## EVALUATION

Final exam assessment (70%): There will be a multiple-choice test. A wrongly answered question will subtract half of a correct question.

Continuous assessment of the subject and Seminar activities (30%): Student work including case studies and exercises that allow students to relate the concepts of the subject and consolidate them (20%) and Group work (10%) which will be the reading and critical analysis of a scientific article.

## REFERENCES

### Basic

- Referencia b1: SCHEIMAN, M. WICK, B. Tratamiento clínico de la visión binocular: Disfunciones heterofóricas, acomodativas y oculomotoras. Ciagami 1996
- Referencia b2: PICKWELL, D. Anomalías de la visión binocular: Investigación y tratamiento. Jims 1996.
- Referencia b3: EVANS, B. Visión Binocular. Masson. 2006



**Additional**

- Referencia c1: GRIFFIN, JR. GRISHAM, JD. Binocular anomalies. Diagnosis and vision therapy. 4th Elsevier. 2002
- Referencia c2: GROSVENOR, T. Optometría de atención primaria. Elsevier-Masson. 2005
- Referencia c3: BORRAS MR et al. Visión binocular Diagnóstico y tratamiento. Barcelona: UPC. 1996