COURSE DATA

DATA SUBJECT

Code: 34297
Name: Optometry I
Cycle: Undergraduate Studies
ECTS Credits: 4.5
Academic year: 2026-27

STUDY (S)

Degree	Center	Acad. year	Period
1207 - Degree in Optics and Optometry	Facultat de Física	2	First quarter

SUBJECT-MATTER

Degree	Subject-matter	Character
1207 - Degree in Optics and Optometry	Optometry	COMPULSORY

COORDINATION

CERVIÑO EXPOSITO ALEJANDRO

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

COMPETENCES / LEARNING OUTCOMES

1207 - Degree in Optics and Optometry

Ability to act as a primary visual care agent.

Ability to measure, interpret and treat refractive and binocular errors.

Ability to prescribe, control and monitor optical corrections.

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.

Knowing how to apply the knowledge acquired to professional activity, knowing how to solve problems and develop and defend arguments.

To acquire skills in the instrumental tests for the evaluation of visual functions and eye health. To know how to take a complete anamnesis.

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 acquire the skills for the interpretation and clinical judgment of the results of visual tests, to establish the most appropriate diagnosis and treatment.

To apply the clinical procedures associated with the adaptation of contact lenses to different refractive and ocular dysfunctions.

To design, to apply and to control visual therapy programs. To know the current techniques of eye surgery andto have the ability to perform the eye tests included in the pre and post-operative exam.

To develop communication skills, data recording and medical record making.

To have and to understand the fundamentals of Optometry for its correct clinical and healthcare application.

To identify and to analyze environmental and occupational risk factors that can cause visual problems.

To know, to apply and to interpret instrumental tests related to visual health problems.

To know and to apply new technologies in the field of optometric clinic.

To know and to apply visual screening techniques applied to different populations.

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.

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To know the differences in treatment and refractive diagnosis of the pediatric patient.

To know the different protocols applied to patients.

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 know the legal and psychosocial aspects of the profession.

To know the modifications linked to aging in perceptual processes.

To know the nature and organization of the different types of clinical care.

To know the principles and to have the skills to measure, interpret, and treat accommodative and binocular vision abnormalities.

To know the sensory and oculomotor mechanisms of binocular vision.

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. Refractive anomalies

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 autorrefractometría. Monocular and binocular subjective refraction

WORKLOAD

PRESENCIAL ACTIVITIES

Activity	Hours
Tutorials	15,00
Theory	30,00
Total hours	**45,00**

NON PRESENCIAL ACTIVITIES

Activity	Hours
Attendance at other activities	0,00
Individual or group project	20,00
Independent study and work	25,00
Preparation of lessons	5,00
Preparation for assessment activities	10,00
Resolution of case studies	7,50
Total hours	**67,50**

TEACHING METHODOLOGY

In-person Activities
a) Lectures: These are in-person classes (with the possibility of also including blended or online formats) where the theoretical content of the subject will be taught. The use of audiovisual methodologies will be emphasized to more clearly illustrate the theoretical content and the examples to be developed.
b) Seminars: These are sessions dedicated to group work, with real-world case studies that must be analyzed and studied by the group. Group interaction will be encouraged through oral presentations and classroom examples.

Student Work
- Study of theoretical foundations
- Development of assignments and questions raised in class
- Individual tutorials

EVALUATION

The course will be assessed using the following criteria:
a) A written exam, with theoretical and practical questions (90% of the grade). This will consist of a series of multiple-choice and/or short-answer questions. A minimum score of 4.5 points (out of 10) is required on this exam to pass the course.
b) Non-recoverable continuous assessment seminars (10% of the grade). These will consist of student participation in in-class assessments throughout the course.
Once the weighted average of these two components has been calculated, the passing grade for the course will be 5 points (out of 10).
In the second exam period, only the written exam will be administered, and the grade for the continuous assessment (b) will be retained.

REFERENCES

Basic:

- Montes-Micó R. Optometría: Principios Básicos y Aplicación Clínica. Elsevier. 2011. ISBN: 978-84-8086-822-8
- Montés-Micó R. Optometría: Aspectos Avanzados y Consideraciones Especiales. Elsevier. 2011. ISBN: 978-84-8086-890-7
- Furlan W., García J., Muñoz L.: Fundamentos de Optometría. Refracción ocular. (2009)

Complementary:

- Rosenfield M, Logan N. Optometry. Science, Techniques and Clinical Management. 2nd Edition. Butterworth-Heinemann-Elsevier. 2009
- Benjamin W.J. Borish¿s clinical refraction. (2008) Referencia b6: Grosvenor T. Primary Care Optometry. Butterworth-Heinemann. 5th edition. (2006)