COURSE DATA

DATA SUBJECT

Code: 34322
Name: Current optics and optometry-related issues
Cycle: Undergraduate Studies
ECTS Credits: 4.5
Academic year: 2025-26

STUDY (S)

Degree	Center	Acad. year	Period
1207 - Degree in Optics and Optometry	Facultat de Física	4	First quarter

SUBJECT-MATTER

Degree	Subject-matter	Character
1207 - Degree in Optics and Optometry	Advanced optometry	ELECTIVES

COORDINATION

TAUSTE FRANCES ANA

SUMMARY

The subject Current optics and optometry-related issues presents a summary of the main research advances developed in these two fields, through specialized conferences and informative and introductory research activities.

PREVIOUS KNOWLEDGE

RELATIONSHIP TO OTHER SUBJECTS OF THE SAME DEGREE

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

OTHER REQUIREMENTS

All the knowledge acquired during the previous years of the degree will be necessary.

COMPETENCES / LEARNING OUTCOMES

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

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 know the latest research in the fields of Optics, Optometry and Vision Sciences.

DESCRIPTION OF CONTENTS

1. Optic and visual quality

Measurment of visual quality, optical quality and trasmittance. IOLs and refracrtive surgery applications. Clinical studies

2. Optic devices for dichomacies and pinhole glasses

Types of aids for dichromats, types of reticular glasses. Effectiveness of these devices

3. Refractive error correction

Current status of the main research related to myopia, refractive error correction, with special emphasis on the optometrist role in these fields

4. Advandec image technics

Advanced fundus imaging techniques. Fundus imaging methods. Coherent and incoherent image. Fundus measurements. Image analysis techniques. Optical coherence tomography.

5. Eye aging

Eye Aging. New theories and latest developments in the optometric clinic. New presbyopia correction techniques

6. The laser

Introduction to lasers. Types of lasers. Laser applications in ophthalmology. Introduction to laser safety: Eye damage, legislation and protection.

WORKLOAD

PRESENCIAL ACTIVITIES

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

NON PRESENCIAL ACTIVITIES

Activity	Hours
Attendance at other activities	7,50
Individual or group project	0,00
Independent study and work	45,00
Preparation of lessons	10,00
Preparation for assessment activities	5,00
Resolution of case studies	0,00
Total hours	**67,50**

TEACHING METHODOLOGY

The subject will consist of two types of activities, with a differentiated methodology:

(i) Theory classes and seminars

(ii) Demonstrations and visits to laboratories

In type (i) classes, the basic theoretical contents of the subject will be taught,

with practical examples, group discussions and activities. In type (ii) classes,

research laboratories will be visited.

EVALUATION

The evaluation of the subject will be made with the following criteria (out of 10 points):

a. 7 points: all students enrolled in the course will have to take an exam, which accounts for 70% of the grade for the course and consists of a written test with theoretical and practical questions on the knowledge acquired in theoretical classes and seminars. This test will consist of a series of multiple-choice questions and several essay questions. Multiple-choice questions will have several answers to choose from, but only one valid solution.

b. 3 points: continuous evaluation of the work carried out in the seminars.

The total grade for the subject will be the sum of the exam (a) and continuous assessment (b) sections, being able to obtain a maximum of 10 points. The grade required to pass the course will be 5 points. To pass, it will be a requirement that the exam mark be greater than 4 points out of 10. If the exam mark exceeds the mark of the exam + continuous assessment set, the mark of the subject will be that of the exam. That is, the final grade for the course will be the highest between:

- the exam grade.

- The exam mark + continuous evaluation.

The evaluation in the second call will be equal to that of the first. The continuous evaluation will be non-retrievable.

REFERENCES

- Refence b1: Benjamín Alonso Fernández et al. (2010). El láser, la luz de nuestro tiempo. Universidad de Salamanca, Centro de Láseres Pulsados Ultracortos Ultraintensos (CLPU). Globalia Artes Gráficas

- Refence b2:: Eye and Contact Lens, Optometry and Vision Science, Journal of Optometry, Ophthalmic and Physiological Optics, Investigative ophthalmology & visual science

- Refence b3:: Ophthalmology, International Ophthalmology, Acta Ophthalmologica, British Journal of Ophthalmology, Journal of Cataract & Refractive Surgery, Journal of Refractive Surgery

- Refence c1:: Current Eye Research, PLOS ONE, Journal of Modern optics