COURSE DATA

DATA SUBJECT

Code: 47002
Name: Advances in Visual Therapy and Orthoptics
Cycle: Master's Degree
ECTS Credits: 3
Academic year: 2025-26

STUDY (S)

Degree	Center	Acad. year	Period
2280 - Master's Degree in Advanced Optometry and Vision Sciences	Facultat de Física	1	First quarter

SUBJECT-MATTER

Degree	Subject-matter	Character
2280 - Master's Degree in Advanced Optometry and Vision Sciences	Avances en terapia visual y ortóptica	COMPULSORY

COORDINATION

HERNANDEZ ANDRES ROSA MARIA

SUMMARY

The course Advances in Visual Therapy and Orthoptic delves into current methods for the diagnosis and treatment of binocular, accommodative, and oculomotor dysfunctions. Modern clinical techniques, visual training programmes, and evidence-based therapeutic strategies are reviewed. Students develop skills to design personalised treatments according to the characteristics of the 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

It is recommended that students have previously taken courses in clinical optometry and have

knowledge of binocular vision, the accommodative system, and the oculomotor system. This knowledge should have been studied in the Optics and Optometry Degree programme.

COMPETENCES / LEARNING OUTCOMES

-

Communicate and inform the patient about all procedures and tests to be performed and clearly explain the results and diagnosis.

Conduct a clinical history appropriate to the patient's profile.

Design visual therapy and orthoptic programmes using appropriate techniques and equipment.

Identify and relate characteristic symptoms indicating the need for visual therapy in different areas of practice.

Plan and organise a programme in visual therapy and orthoptics.

Select which cases are suitable for visual therapy.

Understand optical, non-optical or electronic elements and teach and train their use for optimal visual performance.

Understand the latest research in the field of visual therapy.

Understand the various optometric fields in which visual therapy can be applied.

DESCRIPTION OF CONTENTS

U.T. 1. Visual Rehabilitation Techniques in Vision Therapy and Orthoptics

Study and application of advanced scientific methods for treating binocular, accommodative, and oculomotor dysfunctions.

1. Vision therapy and orthoptics for non-strabismic binocular anomalies.
2. Vision therapy and orthoptics for accommodative disorders.
3. Vision therapy and orthoptics for oculomotor problems.

Traditional exercises and updated technology (software, digital tools, virtual reality) are reviewed to design effective individualized visual intervention programs.

U.T. 2. Scientific Advances in Vision Therapy Based on Scientific Evidence

Critical analysis of recent studies supporting the efficacy of vision therapy in various functional pathologies. The research methodology in this field is explored in depth, reviewing validated protocols, clinical outcomes, and quality criteria for evidence-based practice.

1. Advances in vision therapy and orthoptics for strabismus.
2. Advances in vision therapy and orthoptics for amblyopia.
3. Advances in vision therapy and orthoptics in sports.

U.T. 3. Practical Application: Clinical Cases

Resolution of real or simulated cases integrating assessment, functional diagnosis, and personalized therapeutic proposals. Students must apply clinical reasoning to select techniques, set objectives, define treatment duration, and propose appropriate follow-up. Analysis of special cases:

1. Strabismus and amblyopia
2. Plasticity of the human visual brain after early cortical injury
3. Long-standing homonymous hemianopia
4. Syndrome with visual involvement

WORKLOAD

PRESENCIAL ACTIVITIES

Activity	Hours
Theory	10,00
Seminar	5,00
Laboratory	15,00
Total hours	**30,00**

NON PRESENCIAL ACTIVITIES

Activity	Hours
Attendance at other activities	0,00
Individual or group project	10,00

Independent study and work	10,00
Preparation of lessons	0,00
Preparation for assessment activities	5,00
Resolution of case studies	20,00
Total hours	**45,00**

TEACHING METHODOLOGY

The course combines lectures and seminars aimed at promoting both knowledge acquisition and active student participation.

Lectures:

The expository method (lecture-based teaching) is used, supported by audiovisual material (images, videos and diagrams) to facilitate the understanding of concepts and techniques. In addition, other teaching methodologies such as problem-based learning and flipped classroom are used to encourage student engagement and participation.

Seminars:

Debates, questionnaires and problem-solving exercises based on the course content are proposed, fostering discussion and practical application of the studied procedures. Students will also be required to present assignments as indicated by the teaching staff, either individually or in groups.

Practical sessions:

Sessions take place at the UV Optometric Clinic with real patients, where students participate in the assessment and follow-up of vision therapy treatments.

EVALUATION

The assessment system combines individual tests and group assignments, with the following components and weightings:

- Theoretical or theoretical-practical exam: assessment via a theoretical or theoretical-practical exam to be developed, including multiple-choice questions and short-answer items. It accounts for 60% of the final grade.

- Assessment of group or individual assignments: continuous assessment (resit-able) of assignments completed by one or more students during the course. Its weighting is 20% of the final grade. A minimum of 80% attendance and submission of the required work are mandatory.

- Practical session assessment: evaluation of student performance during practical classes. Its weighting is 20% of the final grade (resit-able).

The minimum passing grade for the course is 50%. Additionally, students must achieve at least half of the available points in each of the three components (written assessment, seminars, and practicals).

In the second examination period, students must be assessed in the parts they failed:

- Written exam of the theoretical component: 60%

- Seminars: evaluated through an exam (20%) on the course material covered.

- Patient practicals: written analysis of a clinical case (20%) including diagnosis, treatment (s), and a visual therapy plan with follow-up as appropriate.

REFERENCES

Basic references:

- Scheiman M., Wick B., Steinman B. *Clinical management of binocular vision: heterophoric, accommodative, and eye movement disorders* (5.ª ed.). Wolters Kluwer Health; 2019. ISBN 978-1496399731.

- Cebrián Lafuente J.L., López Redondo E. *Manual de terapia visual. Optometría clínica.* Independently published; 2021. ISBN 979-8744121433.

- Press L.J. *Applied concepts in vision therapy.* Mosby; 1997. ISBN 978-0815167297.

Complementary references:

- Suter P.S., Harvey L.H. *Vision rehabilitation: multidisciplinary care of the patient following brain injury* (1.ª ed.). CRC Press, Taylor & Francis Group; 2011. ISBN 978-1435457013.
- Zihl J., Dutton G.N. *Cerebral visual impairment in children: visuoperceptive and visuocognitive disorders* (2015.ª ed.). Springer Wien; 2014. ISBN 978-3709118153.
- Peñalba B.A. *Procedimientos clínicos para la evaluación de la visión binocular*. Editorial Médica Panamericana; 2017. ISBN 978-8491101376.