

**COURSE DATA****DATA SUBJECT**

Code: 47003
Name: Advances in Low Vision
Cycle: Master's Degree
ECTS Credits: 3
Academic year: 2026-27

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 baja visión	COMPULSORY

COORDINATION

ALBARRAN DIEGO CESAR ANTONIO

SUMMARY

This course addresses low vision rehabilitation through a comprehensive, patient-centered approach. It covers the main optical, non-optical, electronic and typhlotechnological aids, as well as the clinical criteria for selecting them according to the type and degree of visual impairment.

Functional vision assessment protocols and environmental adaptation strategies are analyzed with the aim of improving personal autonomy and quality of life in people with low vision.

The practical approach is based on the analysis and resolution of real clinical cases, through the design of individualized visual rehabilitation plans and the assessment of their effectiveness using functional tests and validated questionnaires.

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 are recommended to have basic knowledge of ocular anatomy and physiology, especially the retina and visual pathways, as well as visual optics and refraction.

It is also advisable to have previously acquired skills in functional assessment techniques, such as visual acuity measurement, perimetry, contrast sensitivity and basic interpretation of structural tests such as optical coherence tomography.

Basic knowledge of visual psychophysics and some familiarity with the use of magnifiers and basic magnification systems applied to low vision patients will also be useful.

COMPETENCES / LEARNING OUTCOMES

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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.

Identify characteristic symptoms indicating the need for action in different areas for patients with low vision.

Improve functional outcomes through the adaptation and application of low vision techniques and equipment.

Obtain the appropriate optical prescription or aid for each type of patient depending on their needs and visual function status.

Plan visual rehabilitation for low vision.

Understand ocular and neural retinal alterations that may imply reduced visual function.

Understand optical and non-optical aids for low vision.

Understand the latest research in the field of low vision.

DESCRIPTION OF CONTENTS

Topic 1. Selection of patients with low vision

Clinical and functional criteria for identifying patients who may benefit from visual rehabilitation programs. The patient's visual, psychological and social profile is analyzed, together with the factors that influence



adherence, response to treatment and potential functional improvement.

Topic 2. Low vision rehabilitation program

Design, implementation and follow-up of personalized visual rehabilitation programs. Therapeutic goals, the selection of optical, non-optical and electronic aids, and training and adaptation protocols are studied according to the patient's needs.

Topic 3. Residual vision training

Strategies aimed at the functional use of residual vision in people with low vision. The main functional assessment tests are reviewed, and individualized visual training programs are proposed to improve autonomy in daily living activities.

Topic 4. Orientation and mobility techniques

Basic principles of orientation and mobility applied to people with low vision. Strategies to promote safe and autonomous mobility in familiar and unfamiliar environments are addressed, using visual, auditory and tactile cues.

Topic 5. Typhlotechnology and new technologies in low vision

Application of typhlotechnology and new technologies to the rehabilitation of people with low vision. Electronic devices, accessibility systems, augmented reality, virtual reality and artificial intelligence are reviewed, together with criteria for their individualized selection and adaptation.

Topic 6. Practical application through clinical cases

Practical application of the course contents through three supervised clinical sessions at the UV Optometric Clinic with real low vision patients. Students will apply functional assessment techniques, select optical, non-optical and electronic aids, design individualized visual rehabilitation plans adapted to each patient's functional needs, and assess the effectiveness of the proposed interventions using functional tests and standardized quality-of-life questionnaires.

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, participatory seminars and clinical practical sessions with real patients, with the aim of integrating theoretical knowledge acquisition with the development of clinical competencies.

Lectures will be delivered through an expository methodology, supported by audiovisual material, clinical images, explanatory videos and other teaching resources that facilitate the understanding of the fundamental concepts of low vision and visual rehabilitation.

In the seminars, students will prepare and present group projects related to the course contents. These activities will promote collaborative work, critical thinking and the analysis of clinical situations.

The practical sessions will take place at the UV Optometric Clinic, where students will participate in the care of real low vision patients under the supervision of specialized teaching staff. During these sessions, students will apply functional vision assessment techniques, select and adjust optical and non-optical aids, design individualized visual rehabilitation plans and assess the effectiveness of the proposed interventions.

Attendance at laboratory practical sessions is a minimum requirement for passing the course. This requirement shall be deemed to have been met when the student has attended at least 80% of the scheduled laboratory practical hours and has duly justified, on grounds of force majeure, the inability to attend the remaining sessions.

This methodology allows students to integrate theoretical knowledge, clinical skills and communication competencies, promoting a critical and applied approach to the optometric management of low vision.

EVALUATION

The final grade for the course will be calculated as the weighted sum of the following components:

1. Final exam: 70% of the final grade. It will consist of a written test, either theoretical or theoretical and practical, covering the course contents. A minimum score of 5 out of 10 in this component will be required to pass the course.
2. Continuous assessment: 15% of the final grade. It will be based on participation in seminars,



the resolution of activities or clinical cases, and the preparation and presentation of assignments related to the course contents. A minimum score of 5 out of 10 in this component will be required to pass the course.

3. Assessment of clinical practical sessions: 15% of the final grade. Attendance at the clinical practical sessions with real patients at the UV Optometric Clinic will be compulsory. In the first examination period, attendance, participation and student performance in these sessions will be assessed, including the application of functional vision assessment techniques, the selection of optical, non-optical and electronic aids, and the design of individualized visual rehabilitation plans. A minimum score of 5 out of 10 in this component will be required to pass the course.

To pass the course, students must obtain a minimum score of 5 out of 10 in each of the three components and an overall final grade of at least 5 out of 10.

In the second examination period, the same weightings will apply: final exam, 70%; continuous assessment, 15%; and clinical practical sessions, 15%. Students will only have to recover the components not passed in the first examination period.

The final exam will be recovered through an equivalent written test. Continuous assessment will be recovered through an equivalent test or assignment. The practical component will be recovered through a practical examination, which may include the resolution of clinical cases, the selection and justification of optical, non-optical and electronic aids, and the design of an individualized visual rehabilitation plan.

REFERENCES

Basic references:

- Coco Martín M.B., Herrera Medina J., de Lázaro Yagüe J.A., Cuadrado Asensio R. Manual de baja visión y rehabilitación visual. Madrid: Editorial Médica Panamericana; 2015. ISBN 978-84-9835-849-0.
- Correa G. Manual de rehabilitación para personas con discapacidad visual de América Latina. Fundación ONCE para América Latina, Unión Latinoamericana de Ciegos and ICEVI Latinoamérica; 2023. ISBN 978-9915-9627-0-2.
- Pérez Mañá L., Cedrún Sánchez J.E., Ortiz Herrera C. Abordaje multidisciplinar de la discapacidad visual. Casos clínicos optométricos. 1st ed. McGraw Hill; 2026. ISBN 978-84-486-5215-9.

Complementary references:

- Asociación Acción Visión España. Manual de trato a personas con baja visión. Acción Visión España; 2019.
- Brown B. The Low Vision Handbook for Eyecare Professionals. 2nd ed. Boca Raton: CRC Press; 2024.



ISBN 978-1-55642-795-4.

- Whittaker S.G., Scheiman M., Sokol-McKay D. Low Vision Rehabilitation: A Practical Guide for Occupational Therapists. 2nd ed. Routledge; 2024. ISBN 978-1-61711-633-9.