Course guide
370036 - TERAPIES - Visual Therapies

Last modified: 03/06/2025

Unit in charge: Terrassa School of Optics and Optometry
Teaching unit: 731 - OO - Department of Optics and Optometry.

Degree: BACHELOR'S DEGREE IN OPTICS AND OPTOMETRY (Syllabus 2020). (Compulsory subject).

Academic year: 2025 **ECTS Credits:** 3.0 **Languages:** Catalan

LECTURER

Coordinating lecturer: Marc Argilés Sans https://futur.upc.edu/MarcArgilesSans

Others: Alicia Aleson Carbonell
Montserrat Augé Serra https://futur.upc.edu/MontserratAugeSerra

PRIOR SKILLS

- Ability to analyze and diagnose binocular and accommodative dysfunctions.
- Know what amblyopia is at a physiological level.
- Basic skills of knowledge of optometric tests in the binocular and accommodative system.

This subject is coordinated with the following subjects:
- Children's Optometry and Strabismus.
- Clinical Procedures in Optometry.
- Binocular Vision Dysfunctions.
- Advanced Clinical Procedures.

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:
CE21. (ENG) Dissenyar, aplicar i controlar programes de teràpia visual.

Generical:
CG2. Carry out each stage of visual examinations effectively: medical history, selection and implementation of diagnostic tests, establishment of a prognosis, selection and execution of treatment and, if necessary, preparation of referral reports that establish levels of collaboration with other professionals, to ensure the best possible care for the patient.
CG3. Advise and guide patients and relatives during the entire treatment.
CG5. Give opinions and produce reports and expert reports when necessary.
CG6. Assess and incorporate the technological improvements necessary to properly carry out professional activities.

CG7. (ENG) Ser capaç de dur a terme activitats de planificació i gestió en un servei o una petita empresa en el camp de l'òptica-optometria

CG8. Plan and carry out research projects that contribute to the production of knowledge in the field of optometry and disseminate this scientific knowledge via the typical communication channels.
CG9. Expand and update one’s professional abilities through continuing education.
CG13. Demonstrate and interpret methods for critical analysis and theory development and apply them to the field of optometry.
CG14. Demonstrate knowledge, skills and abilities in patient healthcare.
CG16. Participate effectively in both single-discipline and multidisciplinary work groups on projects related to optometry.

Transversal:
CT4. (ENG) Teamwork. The ability to work as a member of an interdisciplinary team, as just another member or in a leadership role, who can contribute to developing projects pragmatically and with a sense of responsibility and make commitments that take into account the resources that are available.

TEACHING METHODOLOGY

LEARNING OBJECTIVES OF THE SUBJECT

a) Be able to planificate a vision therapy for binocular, accommodative, ocular motility and refractive amblyopia dysfunctions.
b) To know the basic materials and instrumentations in vision therapy
c) Be able to organize a vision therapy based on the diagnostics
d) To know the techniques of monocular stimulation in amblyopia and when is appropriate to do it
e) To know the scientific basis of vision therapy

STUDY LOAD

Type	Hours	Percentage
Hours medium group	15,0	20.00
Hours small group	15,0	20.00
Self study	45,0	60.00

Total learning time: 75 h

CONTENTS

Tema 2. Procedures and instrumentation

Description:
2.1. Fusional vergence
2.2. Accommodative system
2.3. Antisuppression
2.4. Ocular motility

Full-or-part-time: 2h
Theory classes: 2h

Tema 1. General concepts

Description:
1.1. Classification and prognosis
1.2. Neurophysiologic basis

Full-or-part-time: 1h 30m
Theory classes: 1h 30m

Tema 3. Binocular dysfunctions

Description:
3.1. Convergence insufficiency
3.2. Convergence excess
3.3. Divergence excess
3.4. Divergence insufficiency
3.5. Basic exphoria and esophoria
3.6. Vertical phoria

Full-or-part-time: 8h
Theory classes: 6h
Practical classes: 2h

Tema 4. Accommodative dysfunctions

Description:
4.1. Accommodative insufficiency
4.2. Accommodative excess
4.3. Accommodative infacility

Full-or-part-time: 8h
Theory classes: 6h
Practical classes: 2h

Tema 5. Eye movements disorders

Description:
5.1. Saccadic eye movements
5.2. Pursuit eye movements

Full-or-part-time: 3h
Theory classes: 2h
Practical classes: 1h

Tema 6. Refractive amblyopia

Description:
6.1. Optometric management
6.2. Vision therapy

Full-or-part-time: 7h 30m
Theory classes: 6h
Practical classes: 1h 30m

ACTIVITIES

Activity 1. Material and procedures used in vision therapy

Description:
Exercises focused on the materials and procedures used in vision therapy

Specific objectives:
a) Understand the mechanisms triggered by spherical lenses, prisms, vectograms, and anaglyphs in the visual system
b) Understand the SILO effect
c) Understand the mechanism used in anaglyphs

Related competencies :
CE21. (ENG) Dissenyar, aplicar i controlar programes de teràpia visual.

CG2. Carry out each stage of visual examinations effectively: medical history, selection and implementation of diagnostic tests, establishment of a prognosis, selection and execution of treatment and, if necessary, preparation of referral reports that establish levels of collaboration with other professionals, to ensure the best possible care for the patient.

Full-or-part-time: 2h
Guided activities: 2h

Activity 3. Ocular motily exercises

Specific objectives:
a) Understand the neurophysiological foundations of eye movements
b) Foster creativity, based on scientific knowledge, in vision therapy

Related competencies :
CE21. (ENG) Dissenyar, aplicar i controlar programes de teràpia visual.

CG9. Expand and update one's professional abilities through continuing education.
CG14. Demonstrate knowledge, skills and abilities in patient healthcare.
CG3. Advise and guide patients and relatives during the entire treatment.
CG16. Participate effectively in both single-discipline and multidisciplinary work groups on projects related to optometry.

CG13. Demonstrate and interpret methods for critical analysis and theory development and apply them to the field of optometry.
CG6. Assess and incorporate the technological improvements necessary to properly carry out professional activities.

CG2. Carry out each stage of visual examinations effectively: medical history, selection and implementation of diagnostic tests, establishment of a prognosis, selection and execution of treatment and, if necessary, preparation of referral reports that establish levels of collaboration with other professionals, to ensure the best possible care for the patient.

Full-or-part-time: 2h
Theory classes: 2h

Practices in the Laboratory

Description:
Practice in the laboratory

Specific objectives:
Understanding the material used in vision therapy

Full-or-part-time: 14h
Practical classes: 14h

Partial Exam

Related competencies :
CE21. (ENG) Dissenyar, aplicar i controlar programes de teràpia visual.

CG2. Carry out each stage of visual examinations effectively: medical history, selection and implementation of diagnostic tests, establishment of a prognosis, selection and execution of treatment and, if necessary, preparation of referral reports that establish levels of collaboration with other professionals, to ensure the best possible care for the patient.

Full-or-part-time: 1h 30m
Theory classes: 1h 30m

Final Exam

Related competencies :
CE21. (ENG) Dissenyar, aplicar i controlar programes de teràpia visual.

CG14. Demonstrate knowledge, skills and abilities in patient healthcare.
CG13. Demonstrate and interpret methods for critical analysis and theory development and apply them to the field of optometry.

Full-or-part-time: 1h 30m
Theory classes: 1h 30m

EUROPEAN DIPLOMA IN OPTOMETRY COMPETENCES

Description:
This module contributes to the European Diploma in Optometry competencies indicated in the following link:
https://drive.google.com/drive/folders/1bwmHBsvkrGnY63DfXAnWZB_i0I2pXa-I?usp=drive_link

GRADING SYSTEM

Partial (20%)
Final (30%)
Practice (25%)
Tasks (25%, 12.5 % each task)
Reassessment: Written exam (100%)

EXAMINATION RULES.

To access the re-evaluation of the subject, it will be necessary to meet the general conditions established for each course by the Academic Regulations for Bachelor's and Master's Degree Studies at the UPC (NAGRAMA) and the specific conditions of the FOOT (grade equal to or greater than 3.5). The reevaluation will consist of a single test on all the topics developed in the subject during the course. If the reevaluation exam is passed, a final grade of 5 will be obtained in the subject. Otherwise, the highest grade between that obtained in the previous evaluation and that of the reevaluation will be maintained.
In the case of partial or total copying in any of the subject evaluations, the provisions of the Academic Regulations for undergraduate and master's studies at the UPC will apply: "Irregular actions that may lead to a significant variation in the grade of one or more students constitute a fraudulent performance of an evaluation act. This action entails a descriptive grade of failure and a numerical grade of 0 for the evaluation act and the subject, without prejudice to the disciplinary process that may arise as a consequence of the acts carried out. If the student considers the decision incorrect, he or she may file a complaint with the director or dean of the teaching center and, if the response does not satisfy him or her, he or she may file an appeal with the rector. The total or partial reproduction of academic or research works, or their use for any other purpose, must have the explicit authorization of the authors. "It is up to the director or the dean of the teaching center to resolve allegations regarding aspects not included in the regulations."
Attendance at the practical sessions is mandatory.

BIBLIOGRAPHY

Basic:
- Griffin, John R; Grisham, J. David. Binocular anomalies: diagnosis and vision therapy. 4th ed. Boston: Butterworth-Heineman, cop. 2002. ISBN 978-0750673693.
- Argilés Sans, Marc. Moviments oculars, atenció visual i procés lector [on line]. Barcelona: Iniciativa Digital Politècnica, 2020 [Consultation: 24/02/2023]. Available on: http://hdl.handle.net/2117/187818. ISBN 9788498808315.
- Scheiman, Mitchell; Wick, Bruce. Clinical management of binocular vision: heterophoric, accommodative, and eye movement disorders [on line]. 5th ed. Philadelphia, PA: Wolters Kluwer Health, 2020 [Consultation: 24/02/2023]. Available on: https://oce-ovid-com.recursos.biblioteca.upc.edu/book?SerialCode=02148837. ISBN 9781496399731.
- Borràs García, M. Rosa. Visión binocular: diagnóstico y tratamiento [on line]. Barcelona: Edicions UPC, 1996 [Consultation: 24/02/2023]. Available on: http://hdl.handle.net/2099.3/36218. ISBN 9788483011591.
- Press, Leonard J. Applied concepts in vision therapy: with accompanying disk. St. Louis [etc.]: Mosby, cop. 1997. ISBN 9780815167297.