

## Course guide

# 370809 - CLOPTINF - (Ang) Clínica d'Optometria Infantil

**Last modified:** 11/07/2023

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

**Degree:** MASTER'S DEGREE IN OPTOMETRY AND VISION SCIENCES (Syllabus 2022). (Compulsory subject).

**Academic year:** 2023    **ECTS Credits:** 3.5    **Languages:** Spanish

### LECTURER

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**Coordinating lecturer:** Valldeflors Viñuela Navarro <https://futur.upc.edu/ValldeflorsVinuelaNavarro>  
Paula Gil Llansa <https://directori.upc.edu/directori/dadesPersona.jsp?id=1186041>

**Others:**

### DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

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#### Specific:

M-CE2. (ENG) Realizar un examen visual optométrico a pacientes preescolares y escolares hasta 9 años, para detectar y tratar problemas visuales que puedan interferir en el proceso de aprendizaje. Diseñar y llevar a cabo un cribaje visual en población infantil para detectar posibles problemas de visión monocular o binocular que necesiten un examen más completo o detectar patologías bajo la tutorización de un oftalmólogo.

Aplicar las técnicas disponibles para el control de la miopía en niños.

#### Generical:

M-CG1. (ENG) Capacitar para el ejercicio de la profesión de óptico optometrista en áreas diversas de especialización clínica, como la atención a la discapacidad visual, las adaptaciones especiales de lentes de contacto, el control de la miopía, el uso de técnicas avanzadas de exploración visual o la visión infantil.

M-CG2. (ENG) Aplicar los modelos existentes de toma de decisiones clínicas, según la tipología de los pacientes, basándose en la evidencia, atendiendo, de forma especial, a la evidencia científica.

#### Transversal:

M-CT2. (ENG) Sostenibilidad y Compromiso Social. Conocer y comprender la complejidad de los fenómenos económicos y sociales típicos de la sociedad del bienestar; tener capacidad para relacionar el bienestar con la globalización y la sostenibilidad; lograr habilidades para utilizar de forma equilibrada y compatible la técnica, la tecnología, la economía y la sostenibilidad.

M-CT3. (ENG) Trabajo en equipo. Ser capaz de trabajar como miembro de un equipo interdisciplinar, ya sea como un miembro más o realizando tareas de dirección, con la finalidad de contribuir a desarrollar proyectos con pragmatismo y sentido de la responsabilidad, asumiendo compromisos teniendo en cuenta los recursos disponibles.

M-CT6. (ENG) Perspectiva de género. (Text definitiu pendent de definir)

#### Basic:

CB8. (ENG) Que los estudiantes sean capaces de integrar conocimientos y enfrentarse a la complejidad de formular juicios a partir de una información que, siendo incompleta o limitada, incluya reflexiones sobre las responsabilidades sociales y éticas vinculadas a la aplicación de sus conocimientos y juicios

CB9. (ENG) Que los estudiantes sepan comunicar sus conclusiones y los conocimientos y razones últimas que las sustentan a públicos especializados y no especializados de un modo claro y sin ambigüedades

## TEACHING METHODOLOGY

- INTRODUCTORY SESSION TO THE PEDIATRIC OPTOMETRY CLINIC (1 session of 4H): In the first clinical session an introduction to the module will be presented. This will include a presentation and explanation of the current module, the logistics of the clinical sessions as well as the clinical documentation to be considered and completed during the clinical sessions. In addition, a review workshop on visual evaluation in children will be held as a preparation for clinical sessions.
- CLINICAL SESSIONS – providing eye care to children (6 sessions / 3h): There will be 6 clinical sessions of 3 hours, providing eye care to real patients. These sessions will comprise school vision screenings as well as complete eye examinations to pediatric patients of the University Center of Vision and children who have not passed the vision screenings.
- CLINICAL SEMINARS with the presentation of clinical cases (5 sessions / 1h): There will be 5 seminars of 1 hour. The most relevant cases seen in the clinical sessions will be presented and discussed. These will cover different aspects of paediatric eye care such as paediatric criteria for refractive prescription, diagnosis and treatment of BV anomalies, amblyopias and strabismus. The first clinical seminar will be led by one of the lecturers and the following ones will be led by the students. The presentation of clinical cases by students will be evaluated.

## LEARNING OBJECTIVES OF THE SUBJECT

La Clínica en Optometría Infantil se desarrolla a partir de los contenidos aprendidos previamente en la asignatura Optometría Infantil.

A partir de sesiones clínicas de atención a pacientes pediátricos reales, en grupos reducidos de estudiantes, se potencia la aplicación de los conocimientos adquiridos y se fomenta el análisis crítico de los resultados de la evaluación, para obtener un diagnóstico esmerado, que permita la decisión del tratamiento y/o la derivación al profesional correspondiente para completar la intervención.

Los objetivos a alcanzar en la Clínica Infantil son mejorar las capacidades profesionales para la atención visual, en un entorno de concurrencia de pacientes pediátricos.

### OBJETIVOS:

1. Adquirir habilidad en la entrevista clínica previa al examen optométrico, así como en la aplicación de las pruebas y técnicas específicas para el examen clínico optométrico de la población pediátrica.
2. Identificación del diagnóstico y de las opciones de tratamiento optométrico de los problemas visuales, para evitar interferir en el desarrollo general y de aprendizaje.
3. Evaluación y gestión del estrabismo en la población infantil.
4. Aplicación de protocolos de prevención de la salud visual y de control de miopía en la población escolar.
5. Detección de signos de patología ocular en la población infantil.
6. Adquirir experiencia en el diseño e implementación de cribados visuales en la población infantil.
7. Habilidades comunicativas y de relación con los pacientes pediátricos y sus familias, atendiendo a su diversidad.

Para ello se trabajarán los siguientes conocimientos y habilidades clínicas:

### HABILIDADES:

- Adquirir experiencia en las técnicas de entrevista clínica previa al examen optométrico de la población pediátrica.
- Adquirir experiencia y habilidad para ejecutar las pruebas y técnicas adecuadas y específicas para el examen clínico optométrico de la población pediátrica.
- Ganar experiencia en el análisis de los resultados de los exámenes que han de conducir al diagnóstico optométrico.
- Adquirir experiencia en identificar las opciones de tratamiento y gestión de los principales problemas optométrico de la población pediátrica.
- Mejorar las habilidades de comunicación del diagnóstico y propuesta de gestión del problema visual a la familia /tutores
- Adquirir experiencia en la gestión de la derivación a otro profesional de la Salud visual, mediante la elaboración y diseño de informes.
- Aplicar correctamente las premisas éticas vinculadas al ejercicio de la optometría en un entorno de concurrencia real de pacientes.

## STUDY LOAD

Type	Hours	Percentage
Hours small group	28,0	32.00
Self study	59,5	68.00

**Total learning time:** 87.5 h



## CONTENTS

### Topics

**Description:**

- 1.- Selection criteria for clinical tests for the differential diagnosis of refractive errors. Refractive prescription selection criteria.
- 2.- Selection criteria for clinical tests for the differential diagnosis of non-strabismic binocular dysfunctions. Treatment selection criteria.
- 3.- Selection criteria for clinical tests for the differential diagnosis of strabismic binocular dysfunctions and amblyopia. Treatment selection criteria.
- 4.- Selection criteria for clinical tests for the differential diagnosis of myopic progression. Treatment selection criteria.
- 5.- Selection criteria for clinical tests for differential diagnosis in spatial populations. Treatment selection criteria.
- 6.- Selection criteria for clinical tests for the differential diagnosis of visual disturbances that interfere with the learning process. Treatment selection criteria.

**Full-or-part-time:** 87h 30m

Practical classes: 4h 30m

Laboratory classes: 22h

Guided activities: 1h 30m

Self study : 59h 30m

## ACTIVITIES

### Introductory session

**Description:**

INTRODUCTORY SESSION TO THE PEDIATRIC OPTOMETRY CLINIC:

In the first clinical session an introduction to the module will be presented. This will include a presentation and explanation of the current module, the logistics of the clinical sessions as well as the clinical documentation to be considered and completed during the clinical sessions. In addition, a review workshop on visual evaluation in children will be held as a preparation for clinical sessions.

**Full-or-part-time:** 4h

Practical classes: 4h

### Clinical Sessions

**Description:**

- CLINICAL SESSIONS – providing eye care to children: 6 sesiones / 3h

There will be 6 clinical sessions of 3 hours, providing eye care to real patients. These sessions will comprise school vision screenings as well as complete eye examinations to pediatric patients of the University Center of Vision and children who have not passed the vision screenings.

**Full-or-part-time:** 56h 40m

Laboratory classes: 18h

Self study: 38h 40m



### Clinical Seminars

**Description:**

- CLINICAL SEMINARS with the presentation of clinical cases: 5 sesiones/1h

There will be 5 seminars of 1 hour. The most relevant cases seen in the clinical sessions will be presented and discussed. These will cover different aspects of paediatric eye care such as paediatric criteria for refractive prescription, diagnosis and treatment of BV anomalies, amblyopias and strabismus. The first clinical seminar will be led by one of the lecturers and the following ones will be led by the students. The presentation of clinical cases by students will be evaluated.

**Full-or-part-time:** 14h 30m

Practical classes: 4h 30m

Self study: 10h

### Assessment Activity 1

**Description:**

ASSESSED CLINICAL ACTIVITY 1: 10%

Resolution of exercises and questions about paediatric clinical examination methodology, refractive and binocular normality values expected by age and refractive prescription criteria in children.

**Full-or-part-time:** 5h 30m

Guided activities: 0h 30m

Self study: 5h

### Assessed Clinical Activity 2

**Description:**

ASSESSED CLINICAL ACTIVITY 2: 10%

Simulation of a paediatric anamnesis: conduction of a simulated paediatric anamnesis for the evaluation of clinical and communicative skills for anamnesis.

**Full-or-part-time:** 6h 50m

Guided activities: 1h

Self study: 5h 50m

## GRADING SYSTEM

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Attendance at seminars and practical sessions will be valued. The module will only be passed if students attend 80% of the seminars and 90% of the practical session.

The final module grade takes into account the assessment the CLINICAL SKILLS DURING THE CLINICAL SESSIONS WITH PEDIATRIC PATIENTS AND THE ASSESSED CLINICAL ACTIVITIES with the weight detailed below:

1. CONTINUOUS CLINICAL SKILLS ASSESSMENT (during the primary care of paediatric patients): 40%.
2. SPECIFIC CLINICAL SKILLS ASSESSMENT (during the primary care of paediatric patients): 20%. Specific clinical skills will be assessed by one of the teachers asking for an aspect of a paediatric patient's visual or binocular function to be conducted during a clinical session.
3. CASE STUDY PRESENTATION: Presentation of pediatric clinical case in a seminar: 20%. During the seminars, each student will present a clinical case related to pediatric optometry to the rest of the group. During the presentation, the clinical examination, the testing procedures and the management decision of the presented case study will be discussed with the rest of the group.
4. ASSESSED CLINICAL ACTIVITY 1: 10%. Resolution of exercises and questions about paediatric clinical examination methodology, refractive and binocular normality values expected by age and refractive prescription criteria in children.
5. ASSESSED CLINICAL ACTIVITY 2: 10%. Simulation of a paediatric anamnesis: conduction of a simulated paediatric anamnesis for the evaluation of clinical and communicative skills for anamnesis.

RE-ASSESSMENT / RE-SIT: In case of failing the module, students will have the opportunity to be re-assessed to pass the module. The re-evaluation/re-sit assessment will be conducted according to the general conditions established by the academic regulations of BSc and MSc degrees of the UPC and the particular ones established by the Faculty of Optics and Optometry of Terrassa with the following conditions:

1. A minimum score of 3/10 is needed to have the opportunity to re-sit the module.
2. Students who have not submitted an assessment activity or were absent during the specific assessment can re-sit the module.

The re-evaluation/re-sit will consist of the resolution of a written pediatric clinical case study (30%) and a practical examination to demonstrate paediatric clinical competencies (70%) similar to the assessed clinical activities conducted during the module.

If the re-evaluation/re-sit assessment is passed (with a grade equal to or greater than 5) the final grade of the module will always be 5. Otherwise, the highest grade (initial vs re-sit assessment) will be maintained.

## EXAMINATION RULES.

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Attendance at seminars and practical sessions will be considered. To pass the module it is mandatory to attend 80% of the seminars and 90% of the practices at the CUV.

It is necessary to follow the format proposed by the lecturer, otherwise there may be a penalty to the grade.

In case of partial or total copying, in any of the evaluation activities of the subject, the General Academic Regulations of the UPC will be applied:

"Irregular actions that may lead to a significant variation of the grade of one or more students constitute a fraudulent performance of an evaluation act. This action involves the descriptive qualification of suspense and numerical of 0 of the act of evaluation and of the subject, without prejudice to the disciplinary process that may arise as a result of the acts carried out. If the student considers the decision incorrect, he can file a complaint with the director or the dean of the teaching center and, if the answer does not satisfy him, he can 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 or authors. It corresponds to the director or the dean of the teaching center to resolve the allegations on the aspects not included in the regulations"

## BIBLIOGRAPHY

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### Basic:

- Sheiman, Mitchell M.; Rouse, Michael W. Optometric management of learning-related vision problems. 2nd ed. St. Louis [etc.]: Mosby Elsevier, 2006. ISBN 0323029655.
- Johnson, S. A. A clinical handbook on child development paediatrics. Chatswood, Australia: Churchill Livingstone Elsevier, 2012.
- Evans, BJW. . Pickwell's Binocular Vision Anomalies. Fifth Edition. Butterworth-Heinemann, 2007. ISBN 9780750688970.
- Scheiman, M.; Rouse, M.W. Optometric management of learning-related vision problems. 2nd ed. St. Louis : Mosby Elsevier, 2006. ISBN 0323029655.
- Prieto-Díaz, J.; Souza-Dias, C.. Estrabismo. 5ª ed.. Buenos Aires: Ediciones Científicas Argentinas, 2005. ISBN 9879758536.
- Moore, Bruce D. . Eye care for infants and young children. Boston: Butterworth-Heinemann, 1997. ISBN 075069646X.
- Taub, M.B; Bartuccio, M; Maino D. . Visual Diagnosis and Care of the Patient with Special Needs. Lippincott Williams & Wilkins, 2012. ISBN 1451178344.
- Caloroso, E.E.; Rouse, M.W. . Clinical management of strabismus. Boston: Butterworth-Heinemann, 1993. ISBN 075069047X.
- Harvey, W.; Gilmartin, B.. Paediatric optometry. Edinburgh: Butterworth-Heinemann, 2004. ISBN 0750687924.
- Scheiman, M.; Wick, B.. Tratamiento clínico de la visión binocular: disfunciones heterofóricas, acomodativas y oculomotoras. Madrid: Ciagami, 1996. . ISBN 8488985010.
- Griffin, J.R.; Grisham, J.D. . Binocular anomalies: diagnosis and vision therapy. 4th ed. Boston: Butterworth-Heinemann, 2002. ISBN 0750673699.
- Leat, S.J.; Shute, R.H.; Westall, C.A. . Assessing children's vision: a handbook. Oxford: : Butterworth-Heneimann, 1999. ISBN 0750605847.

### Complementary:

- Borràs Garcia, M.R. [et al.]. . Visión binocular: diagnóstico y tratamiento [on line]. Barcelona: Edicions UPC, 1996 [Consultation: 10/05/2022]. Available on: <http://bibliotecnica.upc.es/EdUPC/locate4.asp?codi=OP003XXX>. ISBN 848301159X.
- Bholá, Rahul. "Intermittent exotropia: a major review". Eye Rounds.org [on line]. [Consultation: 10/05/2022]. Available on: <https://webeye.opth.uowa.edu/eyeforum/tutorials/intermittent-exotropia.htm>.- Leat SJ. "To prescribe or not to prescribe? Guidelines for spectacle prescribing in infants and children". Clin Exp Ophthalmol . Clin Exp Ophthalmol 94, 514-27.
- American Optometric Association Consensus Panel on Care of the patient with amblyopia. Optometric clinical practice guideline care of the patient with amblyopia. Reference Guide for Clinicians [on line]. 2004. [Consultation: 27/02/2023]. Available on: <https://www.aoa.org/AOA/Documents/Practice%20Management/Clinical%20Guidelines/Consensus-based%20guidelines/Care%20of%20Patient%20with%20Amblyopia.pdf>.- Sandra Johnson. A Clinical Handbook on Child Development Paediatrics. 1st ed.. Chatswood, Australia: Churchill Livingstone Elsevier, 2012. ISBN 9780729580892.
- American Optometric Association Consensus Panel on Care of the patient with strabismus. Optometric clinical practice guideline care of the patient with strabismus: esotropia and exotropia. Reference Guide for Clinicians [on line]. 2010. [Consultation: 27/02/2023]. Available on: <https://www.aoa.org/AOA/Documents/Practice%20Management/Clinical%20Guidelines/Consensus-based%20guidelines/Care%20of%20Patient%20with%20Strabismus%20Esotropia%20and%20Exotropia.pdf>.- Saunders KJ. "Testing visual acuity of young children: an evidence-based guide for optometrists". Optometry in Practice. 11, 161-8.