

370525 - APLICADA - Applied Contact Lenses

Coordinating unit: 370 - FOOT - Terrassa School of Optics and Optometry
Teaching unit: 731 - OO - Department of Optics and Optometry
Academic year: 2019
Degree: BACHELOR'S DEGREE IN OPTICS AND OPTOMETRY (Syllabus 2009). (Teaching unit Compulsory)
ECTS credits: 9 Teaching languages: Catalan

Teaching staff

Coordinator: Gispets Parcerisas, Joan (<http://futur.upc.edu/JoanGispetsParcerisas>)
Serés Revés, Carme (<http://futur.upc.edu/CarmenSeresReves>)

Others: Serés Revés, Carme (<http://futur.upc.edu/CarmenSeresReves>)
Pérez Corral, Joan
Augé Serra, Montserrat (<https://futur.upc.edu/MontserratAugeSerra>)
Quevedo Junyent, Lluïsa (<https://futur.upc.edu/MontserratAugeSerra>)

Opening hours

Timetable: Students may agree with the faculty members the timetable for questions though the email that appears in the University directory (<http://directori.upc.edu/directori/>).

Prior skills

Materials for the manufacture of contact lenses (Optical Materials).
Optics of the eye and the contact lens (Geometric and instrumental Optics and Visual Optics).
Preliminary tests for the contact lenses fitting (Contact lens basics).
Types of hydrogel and Rigid Gas Permeable lenses (Contact lens basics).

Requirements

Only students that have already attended Contact Lens Basics will be allowed to attend the subject.

Degree competences to which the subject contributes

Specific:

1. Determined by scanning objective procedures if eye conditions are appropriate or contraindicate the use of contact lenses of any material.
2. Design and fit contact lenses for treating specific conditions such as presbyopia, aphakia in pediatric patients, non-inflammatory corneal ectasia induced and natural, corneal degenerations, and therapeutic assistance for certain corneal diseases.
3. Inform thoroughly the patient about the advantages and benefits that will have in using the recommended contact lenses, and the indications for the use of better maintenance and preservation of contact lenses.
4. Use appropriate techniques to adapt to each case and establish guidelines for tracking users of contact lenses in order to preserve the integrity and optimal adaptation of the ocular structures.

Generical:

5. - Implementation of the code of ethics and good practice of the profession
- Adapting the technological means to respond to the needs of people with disabilities.
6. - Know the influence of the visual health in the education and the global well-being (and the development)
- Know the influence of the visual health for the development

370525 - APLICADA - Applied Contact Lenses

- Know the fundamental values of the bioethics
- Know the model of sustainable development
- Know the environmental and social impacts of the technology
- 7. Adaptation of all the fields of professional activity envers compatible aspects with the medium ambient (recycling, reuse of the materials,...)
- 12. To think critically about clinical ethical issues, involved in the political and social exercise of optometry
- 14. Being able to collaborate on initiatives, both locally and globally, committed to improving the visual health of the population

Teaching methodology

The subject consists of 4 hours a week of classroom lessons (middle group), 13 sessions of 2 hours each of practices in the laboratory and 2 sessions of PRACTICUM.

To adequately achieve the subject objectives, the instructions and deadlines that are described through the digital campus ATENEA must be followed.

The student will perform two practical sessions at the CUV within the PRACTICUM program.

Attendance to practices is mandatory. Two unjustified or more faults imply that it can not be evaluated.

The student must attend the group of internships assigned, any group change must be agreed with the teachers of the groups affected and communicated to the coordinator.

Learning objectives of the subject

When finishing the subject of Applied CL, the student must be able to:

- Know and use clinical and instrumental protocols used in the exploration associated with the contact lens fitting procedure.
- Apply the clinical procedures associated with the contact lenses fitting for different refractive and ocular dysfunctions.
- Know the basics and prescription criteria for orthokeratology techniques.
- Detect, evaluate and solve the alterations associated with the contact lens wear.
- Know the contact lens cleaning and maintenance systems and relate them to the characteristics of each adaptation, both in terms of the replacement, use and type of contact lenses, as well as the characteristics of each wearer.

Study load

Total learning time: 216h	Hours large group:	0h	0.00%
	Hours medium group:	64h	29.63%
	Hours small group:	26h	12.04%
	Guided activities:	0h	0.00%
	Self study:	126h	58.33%

370525 - APLICADA - Applied Contact Lenses

Content

1. PRELIMINARY EXAMINATION IN THE ADAPTATION OF A CONTACT LENS

Learning time: 43h

Theory classes: 13h
Laboratory classes: 5h
Self study : 25h

Description:

- 1.1 Review of previous segment
- 1.2 Techniques of ocular examination
 - biomicroscopy
 - Corneal Topography

This content is worked:

Detailed explanation of the tools and methodologies used to measure ocular main parameters as a basis for future choice of contact lens that is suitable for each patient. Details of the various techniques of lighting with biomicroscopy examination and detailed analysis of topographic patterns more common.

Related activities:

There will be practical sessions 1 and 2, corresponding to corneal topography and lighting techniques with biomicroscopy.

2. ADAPTATION OF CONTACT SPHERICAL LENSES

Learning time: 87h

Theory classes: 25h
Laboratory classes: 11h
Self study : 51h

Description:

- 2.1 Adaptation of contact lenses spherical RPG
- 2.2 Adaptation of spherical hydrogel contact lenses and silicone hydrogel

This content is worked:

The procedures used for the adaptation of contact lenses spherical materials RPG, of hydrogel and silicone hydrogel and techniques for evaluating the correctness of these adjustments, focusing, in particular, the analysis and fluoresceinograms interpretation, movement and focus of the lens.

Related activities:

There will be practical sessions 3 and 4, corresponding to the adaptation of contact lenses and spherical hydrogel materials RPG
There will be a first evaluation of group practice in small laboratory
Also there will be a first assessment of theoretical knowledge in a large group theory.

370525 - APLICADA - Applied Contact Lenses

<h3>3. ADAPTATION OF CONTACT TORIC LENSES</h3>	<p>Learning time: 43h</p> <p>Theory classes: 13h Laboratory classes: 5h Self study : 25h</p>
<p>Description:</p> <p>3.1 Adaptation of toric contact lenses RPG 3.2 Adaptation to hydrogel toric contact lenses and silicone hydrogel</p> <p>This content is worked:</p> <p>The procedures used for the adaptation of contact lenses toric materials RPG, of hydrogel and silicone hydrogel and techniques for evaluating the correctness of these adjustments, focusing, in particular, the analysis and fluoresceinogrames interpretation, movement and focus of the lens.</p> <p>We will study the various designs of toric contact lenses and hydrogel RPG to assess what design is most appropriate given the anatomical and refractive characteristics of each patient.</p> <p>Related activities:</p> <p>There will be practical sessions 5 and 6, corresponding to the adaptation of toric contact lenses and hydrogel materials RPG.</p>	
<h3>4. INTRODUCTION TO THE ADAPTATION OF CONTACT LENS DESIGNS SPECIALS</h3>	<p>Learning time: 43h</p> <p>Theory classes: 13h Laboratory classes: 5h Self study : 25h</p>
<p>Description:</p> <p>4.1 Therapeutic contact lenses 4.2 Contactology pediatric 4.3. Adaptation of contact lenses on corneal degenerations 4.4. Introduction to the adjustment of contact lenses for presbyopia.</p> <p>This content is worked:</p> <p>The description of special designs of contact lenses, hydrogel and RPG, used to solve special cases, namely therapeutic lenses, used in the pediatric Contactology in corneal degeneration and degeneration marginal rate queratoconus pellucida and lenses multifocal contact. This description will be accompanied by the comment of several clinical cases that serve to illustrate the problems associated with such adjustments more complex.</p> <p>Related activities:</p> <p>There will be practical sessions 7 and 8, corresponding to the adaptation of contact lenses for special designs There will be a second evaluation of laboratory practices in small group Also there will be a second assessment of theoretical knowledge in a large group theory.</p>	

370525 - APLICADA - Applied Contact Lenses

Qualification system

Two written tests will be made E1 (30%) and E2 (30%)

The participation in the theory sessions (20%) will be marked

Examination in the laboratory (20%) and reports of practices will be compulsory to be eligible for examination.

Regulations for carrying out activities

-Required attendance at all activities evaluated.

-If any of the marked activities is not done, it will be considered as not rated (0).

Bibliography

Basic:

Hom, Milton M. Manual de prescripción y adaptación de lentes de contacto. 3a ed. Barcelona: Elsevier Masson, 2007. ISBN 9788445817605.

Clinical manual of contact lenses. Philadelphia: Lippincott Williams & Wilkins, 1994. ISBN 0397511396.

Bennett, Edward S. Rigid gas-permeable contact lenses. New York: Professional Press, 1986. ISBN 0878730575.

Efron, Nathan. Contact lens complications. 2nd ed. Oxford: Butterworth Heinemann, 2010. ISBN 9780750655347.

Veys, Jane. Essential contact lens practice. Oxford: Butterworth Heinemann, 2002. ISBN 0750649127.

Martín Herranz, Raúl. Contactología aplicada: un manual práctico para la adaptación de lentes de contacto. Madrid: Imagen y Comunicación Multimedia, 2005. ISBN 8493356956.

González-Cavada, Javier. Atlas de lámpara de hendidura y lentes de contacto. 2ª ed. Madrid: Grupo ICM de Comunicación, 2015. ISBN 9788493965686.

Others resources:

Lens.com (internet)

www.gpli.info/education

www.clspectrum.com