Information about the subject

Degree: Bachelor of Science Degree in Medicine

Faculty: Faculty of Medicine and Health Sciences

Code: 340308 **Name:** Ophthalmology

Credits: 3,00 **ECTS Year:** 3 **Semester:** 2

Module: Human Clinical Training

Subject Matter: Human Pathology **Type:** Compulsory

Field of knowledge: Health Science

Department: -

Type of learning: Classroom-based learning

Languages in which it is taught: Spanish

Lecturer/-s:

343A	Juan Marin Montiel **(Profesor responsable)**	juan.marinm@ucv.es
	David Salom Alonso	david.salom@ucv.es
343B	Juan Marin Montiel **(Profesor responsable)**	juan.marinm@ucv.es
	David Salom Alonso	david.salom@ucv.es

Module organization

Human Clinical Training

Subject Matter	ECTS	Subject	ECTS	Year/semester
Human pathology basis	6,00	General Pathology I	3,00	3/1
		General Pathology II: Analysis by Problems	3,00	3/2
Psychology	6,00	Medical Psychology and Psychopathology	6,00	3/2
Human Pathology	102,00	Clinical Allergology and Immunology	3,00	3/2
		Dermatology	6,00	5/1
		Endocrinology and Nutrition	6,00	5/2
		Haematology	3,00	3/2
		Infectious Diseases	3,00	3/2
		Medical Oncology and Radiotherapy	3,00	5/2
		Medicine and Surgery of the Cardiocirculatory System	9,00	4/2
		Medicine and Surgery of the Digestive System	6,00	4/1
		Medicine and Surgery of the Musculoskeletal System	9,00	4/2
		Medicine and Surgery of the Nephro-Urological System	6,00	5/1

Human Pathology	Medicine and Surgery of the Nervous System	9,00	5/2
	Medicine and Surgery of the Respiratory System	6,00	3/2
	Obstetrics and Gynaecology	9,00	4/2
	Ophthalmology	3,00	3/2
	Otorhinolaryngology	3,00	4/2
	Paediatrics	9,00	5/2
	Palliative Medicine	3,00	6/1
	Psychiatry	3,00	5/1
	Rheumatology	3,00	4/2

Recommended knowledge

Having general prior knowledge of anatomy, embryology, physiology, biology, histology and pathological anatomy are very useful when taking the course of ophthalmology.

Learning outcomes

At the end of the course, the student must be able to prove that he/she has acquired the following learning outcomes:

R1	Assistance to a gynecological surgical session.
R2	Know the anatomy applied to the eyeball and orbit clinic, as well as the main exploration techniques in Ophthalmology.
R3	To be able to recognize, evaluate, diagnose, raise a differential diagnosis and offer therapeutic and preventive options of the main diseases affecting eyelids, conjunctiva, cornea, sclera, úvea, retina, orbit and via tear, as well as stratbisms, glaucomas, refractive defects and neuro-ophthalmological defects.
R4	Acquire knowledge of exploration, evaluation and treatment of different emergencies in ophthalmology.
R5	Learn essentials of pediatric ophthalmology and the most common ophthalmological tumors.
R6	Know how to recognize and interpret the symptoms and eye signs of various general diseases.
R7	Know the basics of the main ophthalmological, medical and surgical treatments.
R8	Clinical History in Ophthalmology. Patient management at the appointment. Have practiced guardianship the determination of visual acuity.
R9	Have practiced macroscopic and biomicroscopic examination of the anterior segment of the eye and the exploration of pupil reflexes.
R10	Ophthalmoscopy. Have seen the different eye background scanning procedures practice by an expert. Have practiced eye background scanning with a direct ophthalmoscope.
R11	Having seen complementary examination techniques common in ophthalmology practice and interpreted by an expert: optical coherence tomography (OCT), intra-venous angiofluoresceinography (AFG), tonemetry and campimetry.
R12	Having seen an expert eye surgery practice: asepsis and antisepsis in ophthalmology, surgical microscope, anterior pole surgery.

Competencies

Depending on the learning outcomes, the competencies to which the subject contributes are (please score from 1 to 4, being 4 the highest score):

BASIC		Weighting			
		1	2	3	4
CB1	Students have demonstrated to possess and understand knowledge in a study area that starts from the base of the general secondary education, and is usually found at a level that, while supported by advanced textbooks, also includes some aspects that involve knowledge from the forefront of their field of study				x
CB2	Students know how to apply their knowledge to their job or vocation in a professional way and possess the competences that are usually demonstrated through the elaboration and defense of arguments and the resolution of problems within their area of ??study				x
CB3	Students have the ability to collect and interpret relevant data (usually within their area of study) to make judgments that include a reflection on relevant social, scientific or ethical topics				x
CB4	Students can pass on information, ideas, problems and solutions to both a specialized and non-specialized audience				x
CB5	Students have developed the learning skills needed to undertake further studies with a high degree of autonomy				x

GENERAL		Weighting			
		1	2	3	4
CG4	Developing professional practice with respect to patient autonomy, beliefs and culture				x
CG5	Recognizing the limitations themselves and the need to maintain and update their professional competence, giving special importance to the autonomous learning of new knowledge and techniques and to the motivation for quality			x	
CG6	Developing professional practice with respect for other health professionals, acquiring teamwork skills				x

CG9	Understanding and recognizing the effects, mechanisms and manifestations of the disease on the structure and function of the human body			x	
CG11	Understanding and recognizing the effects of growth, development and aging on the individual and their social environment			x	
CG12	Understanding the basis of action, indications and efficacy of therapeutic interventions, based on available scientific evidence		x		
CG13	Getting and writing a medical history containing all relevant information		x		
CG14	Perform a physical exam and mental assessment		x		
CG15	Having the ability to make an initial diagnostic judgment and establish a reasoned diagnostic strategy				x
CG16	Recognizing and treating life-threatening situations and those that require immediate attention				x
CG17	Establishing all diagnosis, prognosis and treatment, applying principles based on the best possible information and clinical safety			x	
CG18	Indicating the most appropriate therapeutics of the most prevalent and chronic acute processes, as well as terminally ill patients	x			
CG19	Raising and proposing appropriate preventive measures for each clinical situation		x		
CG20	Acquiring enough clinical experience in hospital institutions, health centers or other health institutions, under supervision, as well as basic knowledge of patient-centered clinical management and appropriate use of tests, medicines and other health system resources			x	
CG21	Listening to carefully, obtain and synthesize relevant information about the problems afflicting the patient and understand the content of this information			x	
CG22	Writing medical histories and other medical records in an understandable way to outsiders			x	
CG23	Communicating effectively and clearly, both orally and in writing, with patients, family members, media workers and other professionals			x	
CG24	Establishing good interpersonal communication that enables patients, family members, media workers and other professionals to address patients, families, media and other professionals with efficiency and empathy			x	

CG29	Knowing national and international health organizations and the environments and conditions of different health systems		x		
CG33	Maintaining and using records with patient information for further analysis, preserving data confidentiality				x
CG36	Being able to formulate hypotheses, critically collect and evaluate information for problem solving, following the scientific method				x

SPECIFIC		Weighting			
		1	2	3	4
CE36	Recognizing, diagnosing and guiding the management of the main ophthalmological pathologies				x
CE56	Knowing how to make a complete anamnesis, patient-centered and oriented to the various pathologies, interpreting its meaning				x

TRANSVERSAL		Weighting			
		1	2	3	4
CT1	Analytical and synthesis capacity				x
CT2	Planification and organization capacity			x	
CT3	Oral and written communication in mother language			x	
CT7	Solving problems				x
CT8	Making decisions				x
CT9	Team work				x
CT10	Interdisciplinary team work			x	
CT12	Interpersonal relationship skills			x	
CT14	Critical reasoning				x
CT15	Ethical commitment				x

CT16	Individual learning			x
CT17	New situations' adaptation		x	
CT26	Knowing how to value personal action and know your own skills and limitations			x
CT32	Being able to establish and maintain relationships with other professionals and institutions	x		
CT33	Knowing how to get relevant information from personal interviews		x	

Assessment system for the acquisition of competencies and grading system

Assessed learning outcomes	Granted percentage	Assessment method
R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12	25,00%	Open questions
R1, R2, R3, R4, R5, R6, R7, R12	70,00%	Tests
R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12	5,00%	Participation in class

Observations

Criterio de concesión de Matrícula de Honor.
Las matrículas de honor podrán ser concedidas a los alumnos más destacados, que deberán haber obtenido una nota mínima de 9.
Si las circustancias lo requieren, podrá establecerse una prueba especial para determinar aquellos alumnos merecedores de la matrícula de honor, habida cuenta de la limitación del 5% de los alumnos matriculados.
En segunda y posteriores convocatorias, solamente podrán otorgarse las matrículas de honor que pudieran restar tras la primera convocatoria.

MENTION OF DISTINCTION:
According to Article 22 of the Regulations governing the Evaluation and Qualification of UCV Courses, the mention of "Distinction of Honor" may be awarded by the professor responsible for the course to students who have obtained, at least, the qualification of 9 over 10 (“Sobresaliente”). The number of "Distinction of Honor" mentions that may be awarded may not exceed five percent of the number of students included in the same official record, unless this number is lower than 20, in which case only one "Distinction of Honor" may be awarded.

Learning activities

The following methodologies will be used so that the students can achieve the learning outcomes of the subject:

M1	Masterclass
M2	Problems resolution and practical cases
M3	Virtual simulations
M4	Content presentations by teacher
M5	Knowledges and skills explanation
M7	Oral presentation by student
M8	Group activities supervised by professor
M9	Knowledge acquirance through student interaction and activity
M11	Personalised attention by professor
M12	Tests to understand the level of knowledge acquirance and skills
M13	Written work
M14	Online activity on e-learning

M15	Personal study
M16	Information research
M17	Discussion and solving issues in group
M18	Work in team
M19	Group work for searching, discussion and information research
M21	Supervision of clinical histories
M22	Clinical practices

IN-CLASS LEARNING ACTIVITIES

	LEARNING OUTCOMES	HOURS	ECTS
Theory class M1, M2, M4, M5, M9, M13, M17	R1, R2, R3, R4, R5, R6, R7	20,00	0,80
Seminar and group practices M2, M4, M8, M9, M17	R3, R5, R6, R7, R8, R9, R11, R12	14,00	0,56
Tutoring M11	R1, R2, R3, R4, R5, R6	1,00	0,04
Evaluation M12	R1, R2, R3, R4, R5, R6, R12	3,00	0,12
TOTAL		**38,00**	**1,52**

LEARNING ACTIVITIES OF AUTONOMOUS WORK

	LEARNING OUTCOMES	HOURS	ECTS
No attendance M9, M13, M15, M16	R1, R2, R3, R4, R5, R12	37,00	1,48
TOTAL		**37,00**	**1,48**

Description of the contents

Description of the necessary contents to acquire the learning outcomes.

Theoretical contents:

Content block	Contents
SECTION I: Introduction to Ophthalmology.	·**1. Introduction:** Basic and essential ophthalmological concepts. The spatial orientation in ophthalmology. The ocular anatomical landmarks of clinical interest

SECTION II: Clinical ophthalmology.

·**2. Eyelids:** Anatomy applied to the clinic. Inflammation. Ectropion / entropion. Ptosis. Benign and malignant tumors. Traumatism.

·**3. Conjunctiva:** Anatomy applied to the clinic. Evaluation of conjunctival pathology. Infectious and non-infectious conjunctivitis. Benign and malignant tumors.

· **4. Cornea:** Anatomy applied to the clinic. Evaluation of corneal conditions. Infectious and non-infectious keratitis. Ulcers. Dystrophies. Corneal deposits in metabolic diseases. Physical and chemical traumatism. Principles of Corneal Transplantation.

·**5. Sclera:** Anatomy applied to the clinic. Episcleritis and scleritis.

·**6. Glaucoma:** Physiology of the synthesis, circulation and excretion of aqueous humor. Definition. Pathogenesis of glaucomatous lesions. Classification of glaucoma. Therapeutic principles.

·**7. The uvea:** Anatomy applied to the clinic. Anterior and posterior uveitis.

·**8. The Lens:** Anatomy applied to the clinic. Etiological classification of cataract. Principles of lens surgery. Ectopia lentis.

·**9. Macular diseases:** Clinical assessment of macular disease. Macular complementary tests. Age-related macular degeneration (AMD). Maculopathies. Degenerations. Macular drug toxicity.

·**10. Retinal Diseases:** Anatomy applied to clinical assessment. Vascular diseases of the retina: diabetic retinopathy, hypertensive and arteriosclerotic retinopathy, retinovascular occlusions. Hereditary diseases of the retina.

·**11. Vitreous and vitreo - retinal disorders:** Physiopathology of the vitreous-retinal interface. Retinal detachment. Vitreous detachment. Surgical foundations of vitreoretinal pathology. Malignant melanomas and other intraocular tumor pathologies.

·**12. Refractive defects.** Clinical characteristics of refractive errors. Therapeutic principles. Fundamentals of Refractive Surgery.

·**13. Neuro-ophthalmology:** Neuro-ophthalmological clinical evaluation. Optic nerve diseases. Chiasmatic and retrochiasmatic afections of the optic pathway.

Neuro-ophthalmological campimetric defects. The pupillary pathway. Examination of pupillary reactions and abnormal reactions. Isolated involvement of the oculomotor cranial nerves. Supra-nuclear eye movement disorders.

·**14. Lacrimal system:** Anatomy applied to the clinic. Eye Dryness Syndromes. Lacrimal drainage obstruction.

·**15. Orbit:** Anatomy applied to the clinic. Clinical evaluation of orbital disease. Fundamentals of diagnostic imaging in orbital pathology. Dysthyroid ophthalmopathy. Inflammations. Arterio-venous fistulas. Benign and malignant orbital tumors. Fractures.

·**16. Pediatric ophthalmology:** Strabismus. Amblyopia. Congenital eye abnormalities. Retinopathy of prematurity. Retinoblastoma and other pediatric ocular tumors.

SECTION III: Clinical cases and seminars.

·**17. Ocular manifestations of systemic diseases through clinical cases:** ocular abnormalities in hematological diseases, metabolic, endocrine, musculoskeletal, cardiovascular diseases, cancer, infectious, neurological and gastrointestinal diseases. Phakomatosis, ocular complications. Acquired Immunodeficiency Syndrome. Ocular toxicity of medications used in the treatment of systemic diseases.

·**18. Seminar 1.** Physical signs of retinal disease.

·**19. Seminar 2.** Methods of ocular examination.

·**20. Seminar 3.** Ophthalmic surgery principles.

Temporary organization of learning:

Block of content	Number of sessions	Hours
SECTION I: Introduction to Ophthalmology.	1,50	3,00
SECTION II: Clinical ophthalmology.	9,00	18,00
SECTION III: Clinical cases and seminars.	8,50	17,00

References

Salmon J. *Kanski. Oftalmología clínica. Un enfoque sistemático.* 9ª ed.: Elsevier; **2021**. (ISBN:9788491139942).

Blomquist PH. *Practical Ophthalmology.* Manual for Beginning Residentsd.8th ed. American Academy of Ophthalmology; **2021.** (ISBN:9781681044057).

Spalton DJ, Hitchings RA, Hunter PA. *Atlas de oftalmología clínica.* 3ª ed.:Elsevier; **2006**. (ISBN: 9788481748741).

Bagheri N. Wajda B. Calvo C. Durrani A. *The Wills eye manual. Office and emergency room diagnosis and treatment of eye disease.* 7th ed. Lippincott; **2016.** (ISBN**:** 9781496318831).

Kanski JJ. *Signos en Oftalmología, causas y diagnóstico diferencial.*: Elsevier; **2011**. (ISBN: 9788480867375).

Marín J, Marín E. Atlas de Interpretación del Fondo Ocular con Retinoiconos.: Global Health Solution; **2016**. (ISBN: 9788460888338).

Menezo JL, España E. *Técnicas exploratorias en oftalmología.*: Espaxs; **2006.**(ISBN: 9788471793188).

Sánchez M. Díaz-Llopis M, Benítez del Castillo JM, Rodríguez MT. *Manifestaciones oftalmológicas de las enfermedades generales.*: Sociedad Española de Oftalmología; **2001.** (ISBN:9788489085161).

Montolio S, Lloris JM. *Oftalmología. Tools for medical training.*: Ceisal; **2021.** (ISBN:9788409274185).

Addendum to the Course Guide of the Subject

Due to the exceptional situation caused by the health crisis of the COVID-19 and taking into account the security measures related to the development of the educational activity in the Higher Education Institution teaching area, the following changes have been made in the guide of the subject to ensure that Students achieve their learning outcomes of the Subject.

Situation 1: Teaching without limited capacity (when the number of enrolled students is lower than the allowed capacity in classroom, according to the security measures taken).

In this case, no changes are made in the guide of the subject.

Situation 2: Teaching with limited capacity (when the number of enrolled students is higher than the allowed capacity in classroom, according to the security measures taken).

In this case, the following changes are made:

1. Educational Activities of Onsite Work:

All the foreseen activities to be developed in the classroom as indicated in this field of the guide of the subject will be made through a simultaneous teaching method combining onsite teaching in the classroom and synchronous online teaching. Students will be able to attend classes onsite or to attend them online through the telematic tools provided by the university (videoconferences). In any case, students who attend classes onsite and who attend them by videoconference will rotate periodically.

In the particular case of this subject, these videoconferences will be made through:

[X] Microsoft Teams

[ ] Kaltura

Situation 3: Confinement due to a new State of Alarm.

In this case, the following changes are made:

1. Educational Activities of Onsite Work:

All the foreseen activities to be developed in the classroom as indicated in this field of the guide of the subject, as well as the group and personalized tutoring, will be done with the telematic tools provided by the University, through:

X	Microsoft Teams
	Kaltura

Explanation about the practical sessions:

2. System for Assessing the Acquisition of the competences and Assessment System

ONSITE WORK

Regarding the Assessment Tools:

[X] The Assessment Tools will not be modified. If onsite assessment is not possible, it will be done online through the UCVnet Campus.

[ ] The following changes will be made to adapt the subject's assessment to the online teaching.

Course guide		Adaptation	
Assessment tool	Allocated percentage	Description of the suggested changes	Platform to be used

The other Assessment Tools will not be modified with regards to what is indicated in the Course Guide.

Comments to the Assessment System: