

**COURSE DATA****DATA SUBJECT****Code:** 34289**Name:** Human and ocular physiology**Cycle:** Undergraduate Studies**ECTS Credits:** 9**Academic year:** 2026-27**STUDY (S)**

Degree	Center	Acad. year	Period
1207 - Degree in Optics and Optometry	Facultat de Física	1	Second quarter

SUBJECT-MATTER

Degree	Subject-matter	Character
1207 - Degree in Optics and Optometry	Physiology	BASIC

COORDINATION

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SUMMARY

Physiology is the science that studies the nature of living organisms from a functional aspect, ie the study of the functioning of the various organ systems of living things, their regulation and interaction.

The subject of human physiology is the study eye functioning of organs, organ systems that make up the human body and in particular vision. Operation is studied from the molecular and cellular level to the whole person, the interrelationship between systems and the external environment and regulatory mechanisms and functional integration that enable life and visual function.

PREVIOUS KNOWLEDGE**RELATIONSHIP TO OTHER SUBJECTS OF THE SAME DEGREE**

There are no specified enrollment restrictions with other subjects of the curriculum.

OTHER REQUIREMENTS

To take this subject it is convenient that students have previously studied Biology during the high school, to know the basic principles of the cell. Basic knowledge of Chemistry is also necessary. It is important that students reinforce and / or expand their knowledge of the cell and the human body. These and other



knowledge are taught in the subjects of Human and Ocular Anatomy and Ocular Biology that are part of the first degree course.

COMPETENCES / LEARNING OUTCOMES

1207 - Degree in Optics and Optometry

Being able to gather and interpret relevant data to make judgments.

Being able to transmit information, ideas, problems and solutions to both a specialized and non-specialized audience.

Development of learning skills necessary to undertake further studies with a high degree of autonomy.

Knowing how to apply the knowledge acquired to professional activity, knowing how to solve problems and develop and defend arguments.

To acquire the clinical skills necessary for the examination and treatment of patients.

To know the cell structure, embryonic development and organogenesis.

To know the different protocols applied to patients.

To know the fundamentals and techniques of health education and the main generic health programs to which the optometrist must contribute from their scope of action.

To know the nature and organization of the different types of clinical care.

To know the physical and chemical properties of the materials used in optics and optometry.

To know the psychosocial aspects of the profession.

To know the structure of matter, the chemical processes of dissolution and the structure, properties and reactivity of organic compounds.

To think critically about clinical, scientific, ethical and social issues involved in the professional practice of Optometry.

DESCRIPTION OF CONTENTS

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WORKLOAD**PRESENCIAL ACTIVITIES**

Activity	Hours
Tutorials	15,00
Theory	60,00
Laboratory	15,00
Total hours	90,00

NON PRESENCIAL ACTIVITIES

Activity	Hours
Attendance at other activities	0,00
Individual or group project	2,00
Independent study and work	23,00
Preparation of lessons	40,00
Preparation for assessment activities	70,00
Resolution of case studies	0,00
Total hours	135,00

TEACHING METHODOLOGY

The course will use three types of classes with different methodology:

a) Theoretical and practical classes (4 per week): The methodology used will be the lecture-participatory. It will teach the basic theoretical, with illustrative examples. Special attention to student participation through questions and discussions planned. Multimedia resources will be used as the incorporation of images and videos. Specifically alternative teaching methodology will be used as the debate or large group dynamics.



b) Seminars: We used to enhance learning, eliminate misconceptions, integrate and apply knowledge to specific problems. The methodology will never opt for masterful and clinical cases, small group activities, discussion and resolution of problems and issues.

c) Laboratory: There will be a brief theoretical introduction and proceed to perform using a practical guide each practice. Students will be distributed in pairs and solve issues at the end of practice.

Regarding the non-contact hours, in addition to the preparation of exams, students must fill out online questionnaires that deal with the theoretical, the contents of the seminars and practices. These questionnaires were evaluable.

EVALUATION

1st Call

The evaluable activities have different weights in the calculation of the final grade.

Seminars (10%): The grade for seminars is obtained from participation and attendance. Attendance is not compulsory.

Laboratory (10%): They are evaluated by means of a practical exam that is taken together with the final exam of the course. Attendance to 80% of the practical is mandatory to pass the course. However, it is not necessary to pass this exam to pass the course.

Quizzes (10%): Evaluable quizzes to be taken at the end of each of the blocks of the syllabus. These tests are not eliminatory.

Exam (70%): The exam will consist of two blocks:

- General Physiology (35% of the total of the subject).

- Ocular Physiology (35% of the total of the subject)

To average with the rest of the evaluable activities, it will be necessary to obtain a minimum grade of 4.5 (out of 10) in one of the blocks and 5.0 (out of 10) in the other.

To pass the course it is necessary to obtain a minimum final grade of 50%.

Students who do not pass the course in the 1st call will keep the grades obtained in the parts already passed (seminars, laboratory and questionnaires). Regarding the exam, the grade obtained in the blocks with a grade higher than 4.5 will be kept for the 2nd call.

2nd Call



The evaluable activities will keep the same percentage weight as in the first call.

Only two blocks of the Exam can be taken in this Call. To pass the course, it will be necessary to achieve a minimum grade of 50% in the final grade, complying with the same requirements established for the first call.

If the student does not pass the course during the current year, he/she may keep, if he/she wishes, the grades obtained in Laboratory, seminars and questionnaires. Otherwise, he/she will have to repeat the corresponding activities, including attendance to Laboratory and seminars.

REFERENCES

- 10.1 Referencias Básicas Referencia b1: Fisiología Humana. Autor: Stuart Ira Fox. Ed. Interamericana McGraw-Hill. Referencia b2: Tratado de fisiología Médica. Autor: Guyton y Hall. Ed. Interamericana McGraw-Hill. Referencia b3: Neurobiología de la visión. Autor: Urtubia Vicario, César. Ed. UPC. Referencia b4: Anatomía y Fisiología. Autor: Thibodeau y Paton. Ed. Elsevier Mosby.