

SUBJECT TEACHING GUIDE

G7 - General Physiology and Immunology

Degree in Medicine

Degree in Medicine

Academic year 2024-2025

| 1. IDENTIFYING DATA | | | | | |
|----------------------------------|--|------------------|--------------------|------------------------------|--------------|
| Degree | Degree in Medicine Degree in Medicine | | Type and Year | Core. Year 1 Core. Year 1 | |
| Faculty | Faculty of Medicine | | | | |
| Discipline | Basic Subject Area: Physiology Morphology, Structure and Function of the Human Body | | | | |
| Course unit title and code | G7 - General Physiology and Immunology | | | | |
| Number of ECTS credits allocated | 6 | Term | Semester based (2) | | |
| Knowledge Field | | | | | |
| Web | | | | | |
| Language of instruction | Spanish | English Friendly | No | Mode of delivery | Face-to-face |

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| Department | DPTO. FISILOGIA Y FARMACOLOGIA |
| Name of lecturer | NOEMI RUEDA REVILLA |
| E-mail | noemi.rueda@unican.es |
| Office | Facultad de Medicina. Planta: + 2. DESPACHO (2091) |
| Other lecturers | RAMON MERINO PEREZ MARCOS LOPEZ HOYOS ESTHER TAMAYO REVUELTA CARLOS MANUEL MARTINEZ CAMPA PAULA PEREZ ADRIAN CAROLINA CASTRO HERNANDEZ LUIS GIL DE GOMEZ SESMA |

4. OBJECTIVES

Objectives of General Physiology section:

- To know the physiology and its divisions. What is the scientific method?
- To know the internal environment, its relations with the external environment and what is the homeostasis
- To characterize the different body fluid compartments
- To study the cell membrane and its excitability and transport functions
- To describe the different forms of cellular communication
- Study of chemical communication (hormonal)
- Study of neuronal communication
- The sensory receptors. Transduction of stimuli in electrochemical signals
- To know the autonomous and somatic nervous system
- To describe the effectors: smooth, skeletal and cardiac muscles

Objectives of the Immunology section:

- To describe the general functions of the immune system
- To study the innate immune response
- Study of immunoglobulins and antibodies
- To know the receptors of the acquired immune response
- To describe the cells involved in acquired immune response: T and B lymphocytes and the major hiscompatibility system
- To describe how activation of the immune response occurs
- Control of cell migration in the immune response
- To characterize the immune response against microorganisms
- To analyze the regulation of the immune response

6. SUBJECT PROGRAM

CONTENTS

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| 1 | The first part of the subject is intended to describe the basic principles of the physiology of the organs and devices of the human body. The second part deals with the knowledge of the basic principles of functioning of the immune system under physiological conditions |
| 2 | Internal environment and homeostasis. Characterization of body fluids |
| 3 | Functions of cell membranes: transport and excitability |
| 4 | Overview of chemical communication. hormonal communication |
| 5 | Neuronal communication. synapse |
| 6 | General information about sensory receptors |
| 7 | Autonomous nervous system |
| 8 | Effectors. Smooth, skeletal and cardiac muscles |
| 9 | The innate immune response |
| 10 | The acquired immune response |
| 11 | Cells of the acquired immune response |
| 12 | Activation of the immune response |
| 13 | Migratory movements in the immune response |
| 14 | The immune response in action. Response to microorganisms. Regulation of immune response |

| 7. ASSESSMENT METHODS AND CRITERIA | | | | |
|--|--------------|-------------|-----------|---------------|
| Description | Type | Final Eval. | Reassessn | % |
| practice exam | Work | No | No | 15,00 |
| The continuous assessment of the knowledge and skills acquired in the theoretical and practical classes will represent 40% of the final grade (4 points) and will be carried out as follows: - At the beginning of each practical activity, students will be pr | Written exam | Yes | Yes | 60,00 |
| Handbook with questions to resolve by the students (working in groups of 3 students) applying the knowledge acquired during the classes | Work | No | No | 5,00 |
| Examination consisting in short questions | Written exam | No | No | 20,00 |
| Student's personal work to be exposed in powerpoint presentation or similar | Others | No | No | 0,00 |
| TOTAL | | | | 100,00 |
| Observations | | | | |
| <p>The student continuous assesment of the knowlegde acquired in practical and theoretical classes will represent 40% of the final qualification.</p> <p>10% of questionnaires answered in practical classes</p> <p>10% of a exam to be done at the middle of the six-month period</p> <p>Individual (10%) and group (10%) works</p> | | | | |
| Observations for part-time students | | | | |
| Part-time students must attend all compulsory practical exercises and they must go through the evaluation process as the rest of the students. | | | | |

8. BIBLIOGRAPHY AND TEACHING MATERIALS

BASIC

Silverthorn D: Fisiología Humana, Un enfoque integrado, 8ª edición Ed. Panamericana 2019
 AK Abbas et al: Inmunología Celular y Molecular, Elsevier 9ª Edición, 2018
 Kuby Inmunología, Mc Graw Hill 8ª Edición, 2020