

**COURSE DATA****Data Subject**

<b>Code</b>	42597
<b>Name</b>	Medicine and clinical testing
<b>Cycle</b>	Master's degree
<b>ECTS Credits</b>	6.0
<b>Academic year</b>	2024 - 2025

**Study (s)**

<b>Degree</b>	<b>Center</b>	<b>Acad. Period</b>	<b>year</b>
2116 - Master's Degree in Bioinformatics	School of Engineering	1	First term

**Subject-matter**

<b>Degree</b>	<b>Subject-matter</b>	<b>Character</b>
2116 - Master's Degree in Bioinformatics	12 - Medicine and clinical testing	Optional

**Coordination**

<b>Name</b>	<b>Department</b>
DASI FERNANDEZ, FRANCISCO JOSE	190 - Physiology
LLAU PITARCH, JUAN VICENTE	190 - Physiology

**SUMMARY**

The objective is to understand the doctor or pharmacist entitled not the general organization of the human body and its operating mechanisms and control basic pathophysiological processes then know the process of diagnosing a disease that is still in medicine, as data is generated as have access to them, and their advantages and limitations. This will explain the general concepts of health and disease, and diagnostic processes are established, the variety of additional tests that are used, and the basis of treatment.

In a second aspect will analyze the different methodologies used for the application of scientific method to medical research.



## PREVIOUS KNOWLEDGE

### Relationship to other subjects of the same degree

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

### Other requirements

Is recommended prior review of materials previously studied Biology at least at the undergraduate level.

## COMPETENCES (RD 1393/2007) // LEARNING OUTCOMES (RD 822/2021)

### 2116 - Master's Degree in Bioinformatics

- Students should apply acquired knowledge to solve problems in unfamiliar contexts within their field of study, including multidisciplinary scenarios.
- Students should be able to integrate knowledge and address the complexity of making informed judgments based on incomplete or limited information, including reflections on the social and ethical responsibilities associated with the application of their knowledge and judgments.
- Students should communicate conclusions and underlying knowledge clearly and unambiguously to both specialized and non-specialized audiences.
- Students should demonstrate self-directed learning skills for continued academic growth.
- Be able to access the information required (databases, scientific articles, etc.) and to interpret and use it sensibly.
- Students should possess and understand foundational knowledge that enables original thinking and research in the field.

## LEARNING OUTCOMES (RD 1393/2007) // NO CONTENT (RD 822/2021)

C1: General Knowledge of medical terminology. General classification of diseases. As a diagnosis.

C2: Know as The medical history of the patient. Signs and symptoms. Propaedeutic. Diagnostic tests. C3: Understand the limitations of diagnostic procedures and technologies in the service of medicine. C4: Know the various sources from which data can come from the study subjects

C5: Know the general criteria for drug delivery limitations and future developments. The figure of the clinical pharmacologist.

C6: Know the clinical types and their limitations and the relevant regulations.

C7: Knowing the types of basic and clinical studies used in Health Sciences



## DESCRIPTION OF CONTENTS

### 1. General concepts. Disease and syndrome

Concept of Health and Disease. Scales of physical capacity and quality of life. General nomenclature of the different aspects of the disease process.

### 2. Introduction to medicine (i). Anamnesis

Introduction to the diagnostic processes of the disease. Evaluation of subjective data and objective

### 3. Introduction to medicine (ii). Diagnostic tests

General description of diagnostic tests. Sensibility, specificity, predictive values (positive and negative). Introduction to the evaluation of Health technologies

### 4. Clinic history. Electronic Registry of Health. Telemedicine and guides for automatic decision of patients

New technologies in storage processes and handling of Medical information. Electronic registries of Health.

Telemonitorization: their role in the follow-up of chronic-degenerative diseases  
new technologies for the resolution of Medical problems.

Patient Guided Systems

### 5. Nombre de la U.T. (English): Introduction to medicine (iii). Basic Pharmacology. Treatments , types and examples.

General concepts in Pharmacology.

Efficacy and pharmacological toxicity.

New ways in the development and safe and useful use of drugs.

Pharmacogenomics

### 6. Introduction to medicine (iv). Preventive medicine. Population Studies . Cohorts. Types of studies

Preventive medicine

Utilization of epidemiology in the advances of medicine

Studies of total population

Types of epidemiological studies

**7. Introduction to medicine (v). Clinical assays. Types Ethics committee. Legal considerations**

Types of clinical assays and their role in the development of new therapeutic interventions. Legal framework. Ethics of the clinical assays. Evidence based medicine.

**WORKLOAD**

ACTIVITY	Hours	% To be attended
Theory classes	60,00	100
Attendance at events and external activities	5,00	0
Development of individual work	10,00	0
Study and independent work	30,00	0
Readings supplementary material	15,00	0
Preparation of evaluation activities	25,00	0
Preparing lectures	15,00	0
Preparation of practical classes and problem	5,00	0
Resolution of case studies	10,00	0
Resolution of online questionnaires	5,00	0
<b>TOTAL</b>	<b>180,00</b>	

**TEACHING METHODOLOGY**

MD1 - Task training of the teaching-learning environment interaction in the classroom through expository sessions. Previous assignments include preparation (information search, reading texts supplied by teachers), teaching sessions themselves and the later work of deepening.

MD2 - Learning through problem solving and case studies, through which it is acquiring skills on different aspects of materials and subjects.

MD4 - Cross-disciplinary skills. Include attendance at courses, conferences or round tables organized by the CEC of the Master and / or conduct of a bibliographic work on issues that contribute to the integral. It produces a report on activities

**EVALUATION**

SE1 Continuous Assessment: Minimum 5, maximum 15

SE3 Activities: Weight Minimum 10, maximum 20



SE4: Exams: minimum 10, maximum 40

## REFERENCES

### Basic

- Referencia b1: Introduction to Clinical Medicine Part 1 in Harrison's: Principles of Internal Medicine McGraw Hill Companies
- Referencia b2: Foundations in Clinical Research Leslie Gross Portney and Mary P. Watkins (2008)
- Referencia b3: Tratado de Fisiología Médica de Guyton.11 edición (editorial interamericana)

### Additional

- Referencia c1: TheLancet.com - Home Page
- Referencia c2: <http://www.nejm.org/>
- Referencia c3: <http://www.nature.com/nm/index.html>