Teaching guide

IDENTIFICATION DETAILS

Degree:	Medicine
Field of Knowledge:	Health Science
Faculty/School:	Medicine
Course:	BIOLOGY
Type:	Basic Training
ECTS credits:	6
Year:	1
Code:	2711
Teaching period:	First semester
Area:	Biology
Module:	Morphology, Structure and Function of the Human Body
Teaching type:	Classroom-based
Language:	Spanish
Total number of student study hours:	150

SUBJECT DESCRIPTION

La asignatura de Biología es una asignatura semestral de formación básica que se imparte en el primer curso del Grado en Medicina. Esta asignatura está integrada dentro del módulo de "Morfología, Estructura y Función del Cuerpo Humano", el cual tiene como objetivo formativo sentar las bases necesarias para conseguir posteriormente un conocimiento sólido e integrado de la Medicina.

Desde que en el siglo XIX Rudolf Virchow rechazó la idea que la enfermedad era una aflicción del cuerpo entero, y propuso que era el resultado de una alteración celular, el estudio de las bases celulares de la enfermedad ha sido muy importante en Medicina. En la actualidad, y sobre todo después de la secuenciación del Genoma

Humano, se observa una tendencia cada vez más marcada a estudiar y comprender las enfermedades desde el punto de vista de las moléculas. Pero la identificación de genes mutados o patrones de expresión alterados no es suficiente para entender una enfermedad o desarrollar nuevas terapias. El conocimiento de las funciones de estos productos génicos en el contexto celular es necesario, y por ello la disciplina de Biología sigue siendo fundamental en Medicina.

La célula es la unidad básica de todos los organismos vivos. El conocimiento de las células es esencial para comprender los distintos niveles de organización y funcionamiento de los organismos. La asignatura de Biología proporciona al alumno conocimientos básicos de las propiedades estructurales y funcionales de las células. En particular, se pretende que el alumno conozca la estructura y función de cada orgánulo y compartimento de la célula eucariota, así como la interrelación entre ellos para llevar a cabo las funciones celulares. También se estudiará la capacidad de relación y coordinación entre las células en los organismos pluricelulares.

La descripción de los diferentes tipos de células en el organismo humano y de las organizaciones de distinto orden que surgen de ellas (tejidos, órganos, etc.), así como el desarrollo humano y la organogénesis desde la aparición de la primera célula del embrión se estudiarán dentro del mismo módulo, en las asignaturas de Histología y Embriología.

La asignatura de Biología es una asignatura básica y completamente necesaria, ya que proporciona al alumno unos conocimientos imprescindibles sobre la célula que le ayudarán a abordar y comprender asignaturas de cursos posteriores del Grado en Medicina.

SKILLS

Basic Skills

Students must have demonstrated knowledge and understanding in an area of study that is founded on general secondary education. Moreover, the area of study is typically at a level that includes certain aspects implying knowledge at the forefront of its field of study, albeit supported by advanced textbooks

Students must be able to apply their knowledge to their work or vocation in a professional manner and possess skills that can typically be demonstrated by coming up with and sustaining arguments and solving problems within their field of study

Students must have the ability to gather and interpret relevant data (usually within their field of study) in order to make judgments that include reflections on pertinent social, scientific or ethical issues

Students must be able to convey information, ideas, problems and solutions to both an expert and non-expert audience

Students must have developed the learning skills needed to undertake further study with a high degree of independence

General Skills

To recognise the essential elements of the medical profession, including ethical principles, legal responsibilities

and professional practice focussed on the patient. To acquire the values of professionalism:
a. Altruism: looking for the best in patients.
b. Responsibility: complying with the implicit agreement with the community.
c. Excellence as a continuous search for knowledge.
d. Obligation as a free commitment to serve.
e. Honour and integrity: complying with personal and professional codes and undertaking not to breach them.
f. Serving others.

To understand and recognise the causal agents and risk factors that determine health conditions and development of illness.

To understand and recognise the effects that the growth, development and aging of on the individual have on the social environment.

To understand the foundations underpinning action, indications and efficiency in therapeutic interventions based on the scientific evidence at hand.

To understand the importance of these principles for the benefit of patients, society and the profession, particularly focussing on professional secrecy.

To know how to apply the principle of social justice to professional practice and understand the ethical implications of health in a global context of transformation.

To engage in professional practice with regard to the independence, beliefs and culture of the patient.

To recognise one's limitations and the need to maintain and update professional skills, with particular emphasis on independent acquisition of new knowledge and techniques and a motivation to acheive quality.

To engage in professional practice with regard to other health professionals, gaining teamwork skills.

To understand and recognise the structure and normal function of the human body at molecular, cellular, tissue, organ and system level in the various stages of life, in both men and women.

To understand and recognise the effects, mechanisms and manifestations of illness on the structure and function of the human body.

Specific skills

To be familiar with cell structure and function: characteristics and properties of biomolecules; general organisation of cellular metabolism; metabolism of the main biomolecules; regulation and metabolic integration. To be familiar with the basic principles of human nutrition. To be familiar with the structures and processes of cell communication, structure and operation of excitable membranes, the cell cycle, cell differentiation and proliferation processes, genetic information transfer and gene expression and regulation mechanisms.

DISTRIBUTION OF WORK TIME

CLASSROOM-BASED ACTIVITY	INDEPENDENT STUDY/OUT-OF-CLASSROOM ACTIVITY
64 hours	86 hours