Course Code	Course Title	Credits (ECTS)
BIOL-121	Cell Biology II/ Κυτταρική Βιολογία II	6
Department	**Semester**	**Prerequisites**
Life & Health Sciences	Spring	BIOL-120
Type of Course	**Field**	**Language of Instruction**
Required	Pharmacy	Greek
Level of Course	**Year of Study**	**Lecturer**
1st Cycle	1st year	Evdokia Kastanos/Demetris Iacovides
Mode of Delivery	**Work Placement**	**Co-requisites**
face-to-face	N/A	None

Objectives of the Course:

The aims of this module are to enable students to:

- comprehend the structure and function of the cell as the basic unit of life
- appreciate introductory aspects of eukaryotic and prokaryotic genetics including the basic principles of recombinant DNA technology
- commence development of the skills necessary for the design, presentation, interpretation and analysis of experimental data

Learning Outcomes:

After completion of the course students are expected to:

- comprehend what constitutes a living cell and the fundamental differences between prokaryotes and eukaryotes
- understand the processes of cell division, cell cycle and differentiation
- explain the organisation and expression of genes
- explain the basis of recombinant DNA technology
- appreciate the basic principles of inheritance

Course Contents:

Non living inorganic and organic substances. Life, living matter and characteristics of life. Organisation of living matter, cell, organism. Procaryotic and eukaryotic cells. Cell wall, cell membrane, cell organelles, nucleus. Cell function and chemical constitution. Various types of organisms and their systematics. Viruses, bacteria, plants, fungi, animals –main and characteristic differences. Evolution, Genetics and Heredity. Food-energy, cell division and reproduction. Mitosis and regulation of cell

cycle. Secretion, phagocytosis, pinocytosis, movement, death. Instruments and Techniques for the study of cells and organisms. Interactions of organisms. Symbiosis, Parasitosis, Parabiosis. *Laboratory exercises:* *Exercise 1:* Cell division - mitosis, heredity; *Exercise 2:* Cell movement, phagocytosis - pinocytosis;

Learning Activities and Teaching Methods:

Lectures, class discussion, assignments, laboratory

Assessment Methods:

Final exam, coursework

Required Textbooks/Reading:

Authors	**Title**	**Publisher**	**Year**	**ISBN**
Alberts B.,Bray D.,Hopkin K.,Johnson A.,Lewis J.,Raff M.,Roberts K.,Walter P	Βασικές Αρχές Κυτταρικής Βιολογίας	BROKEN HILL PUBLISHERS LTD		
ΒΑΣΙΛΗΣ ΜΑΡΜΑΡΑΣ & ΜΑΡΙΑ ΛΑΜΠΡΟΠΟΥΛΟΥ-ΜΑΡΑΜΑΡΑ	Βιολογία Κυτάρου	ΤΥΠΟΡΑΜΑ -Αγοργιανίτης Σπ. Μον. ΕΠΕ		

Recommended Textbooks/Reading:

Authors	Title	Publisher	Year	ISBN
Campbell-Reece et al	Biology	Pearson, Benjamin, Cummings	2008	